S&H Form: PTO/SB/05 (12/97)

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No. 826.1517/JDH

First Named Inventor or Application Identifier:

Minoru KURIKI, et al.

Express Mail Label No.

APPLICATION ELEMENTS
See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: **Assistant Commissioner for Patents**
Box Patent Application
Washington, DC 20231

1. [X] Fee Transmittal Form
2. [X] Specification, Claims & Abstract ..... [Total Pages: 59]
3. [X] Drawing(s) *(35 USC 113)* ..... [Total Sheets: 32]
4. [X] Oath or Declaration ..... [Total Pages: 3]
   a. [X] Newly executed (original or copy)
   b. [ ] Copy from a prior application (37 CFR 1.63(d)) *(for continuation/divisional with Box 17 completed)*
      i. [ ] DELETION OF INVENTOR(S)
      Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
5. [ ] Incorporation by Reference (usable if Box 4b is checked)
   The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
6. [ ] Microfiche Computer Program *(Appendix)*
7. [ ] Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
   a. [ ] Computer Readable Copy
   b. [ ] Paper Copy (identical to computer copy)
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ACCOMPANYING APPLICATION PARTS

8. [X] Assignment Papers (cover sheet & document(s))
9. [ ] 37 CFR 3.73(b) Statement *(when there is an assignee)* [ ] Power of Attorney
10. [ ] English Translation Document *(if applicable)*
11. [ ] Information Disclosure Statement (IDS)/PTO-1449 [ ] Copies of IDS Citations
12. [ ] Preliminary Amendment
13. [X] Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
14. [ ] Small Entity Statement(s) [ ] Statement filed in prior application, status still proper and desired.
15. [X] Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
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17. If a CONTINUING APPLICATION, *check appropriate box and supply the requisite information:*

[ ] Continuation [ ] Divisional [ ] Continuation-in-part (CiP) of prior application No: ___/_____

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NEW APPLICATION FEE TRANSMITTAL		Attorney Docket No.	826.1517/JDH
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FEE CALCULATION (fees effective 10/01/97)

CLAIMS	(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) CALCULATIONS
	TOTAL CLAIMS	27 - 20 =	7	X $ 22.00 =	$ 154.00
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	MULTIPLE DEPENDENT CLAIMS (any number; if applicable)			+ $270.00 =	0.00
			BASIC FILING FEE	+	790.00
			Total of above Calculations =	$	1,354.00
	Surcharge for late filing fee, Statement or Power of Attorney ($130.00)			+	0.00
	Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28).			-	0.00
			TOTAL FILING FEE =	$	1,354.00
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SUBMITTED BY: STAAS & HALSEY

Typed Name	James D. Halsey, Jr.	Reg. No.	22,729
Signature		Date	November 10, 1998

APPLICATION FOR

UNITED STATES LETTERS PATENT

SPECIFICATION

Inventor(s): Minoru KURIKI and Kiyoto NAGANUMA

Title of the Invention: MESSAGE PROCESSING DEVICE, MESSAGE MANAGEMENT METHOD AND STORAGE MEDIUM FOR STORING MESSAGE MANAGEMENT PROGRAM

MESSAGE PROCESSING DEVICE, MESSAGE MANAGEMENT METHOD AND STORAGE MEDIUM FOR STORING MESSAGE MANAGEMENT PROGRAM

Background of the Invention

Field of the Invention

The present invention is related to a message processing device, a message processing system, and a message management method, for processing a message transmitted from a terminal, and a storage medium in which a message management program is stored.

Description of the Related Art

Recently, the following technology has been easily realized. That is, an electronic mail can be transmitted to an individual receiver by a mail system such as a personal-computer communications system, a UNIX system or the like, and the same mail can be transmitted to a plurality of receivers.

There is a case where, when a plurality of members cooperatively do business, a leader transmits mails to the members to confirm whether or not the members have completed the business, in order to determine the business progress states of the members. In such a case, each member of the group prepares a

mail for reporting whether or not his or her business has been completed, and transmits this mail to the leader. The leader reads the mails from all the members, and determines whether or not the business of each member has been completed. In such a case, the number of mails to be read increases as the number of members increases, and so the leader's job increases.

Further, in order that a member other than the leader determines the progress states of other members, he or she should send mails to the other members to confirm their progress states similarly to the above-mentioned, and should receive their responses. Therefore, the process of transmitting and receiving mails between members becomes complicated.

The displaying of received mails as a list has been conventionally performed, but in this conventional method, only a list is displayed.

There are many cases in which, when a mail is transmitted, a sender wishes to know whether or not the receiver confirms the contents of the mail. In a conventional electronic mail system, however, the sender can determine whether or not the receiver opened the mail but cannot determine whether or not the receiver actually confirms the contents of the mail. In a personal computer communications system or

the like, when a receiver reads out a mail which has been stored in a host computer, is informed to a sender as considering that this mail has been opened. According to this method, even if the terminal provided on a receiving side automatically reads out a mail from a host computer, this mail is handled as opened. Therefore, a sender cannot determine whether or not a receiver actually confirms the contents of a mail.

Conventionally, the processing flow of business is transmitted by mail. However, a process of displaying the list of mails including a formatted message about business and that of a mail including a non-formatted message to an individual receiver, on a same display, thereby managing the mails, has not yet been performed.

Summary of the Invention

An object of the present invention is to determine the states of the receiver of a message. Another object is to display the contents of a message and the states of a receiver linked with each other, on a terminal. Still another object is to make clear whether or not the receiver of a message confirms the contents of a message or whether or not he or she

completes the business related to this message. A further object is to display the formatted message related to a business processing and the non-formatted messages other than this formatted message together with a message type so that the received messages can be uniformally managed.

The present invention includes a preparation portion for preparing a receiver state list for displaying the states of receivers of messages whose destinations are a plurality of receivers, and a management portion for managing the information of the receiver state list, in a message processing device for processing messages transmitted from a plurality of terminals.

For example, completion information which informs that a receiver of the message confirms the contents of the message or that the business related to the message is completed, is included in the receiver state list. Thus, the sender of a message or receivers thereof can determine whether or not all the members who received the messages have confirmed the messages or whether or not the businesses related to the messages have been completed, by looking at the receiver state list. Accordingly, the states of all the receivers can be obtained simultaneously.

By displaying the comments to the received message on the receiver state list, which is prepared by the receiver, it can be determined whether or not the message is accurately transmitted to a receiver, or whether a receiver approves or disapproves of the message.

Further, by displaying the contents of a message and the receiver state list linked with each other on a terminal, the sender of a message and all the receivers can grasp the contents of the message as well as the states of each receiver of the message, simultaneously.

A message management method of the present invention is to display the formatted message related to a business processing and the non-formatted message other than this business together with the message type as a receiver state list.

According to the present invention, the list of a formatted message such as a work flow and a non-formatted message such as a mail to an individual receiver are displayed together with the message type as a message list. Therefore, it can be determined from the message type whether each message is related to a business mail or a personal mail.

Further, according to the message management

method of the present invention, a receiver state list for displaying the states of a plurality of receivers of messages whose destinations are a plurality of receivers is displayed on a terminal.

The present invention can obtain the states of all the receivers who have received the messages asking, for example, whether or not they have confirmed the contents of messages or whether or not the businesses related to these messages have been completed.

Brief Description of the Drawings

Fig. 1 is a block diagram showing a system configuration of the message processing system according to an embodiment of the present invention;

Fig. 2 shows configurations of a message file 15, a message management table 16, and a member table 17;

Fig. 3 is a flowchart showing the outline process of transmitting a message;

Fig. 4 is a table showing the display states at the time of transmitting a message;

Fig. 5 is a flowchart showing setting attributes based on the types of messages to be transmitted;

Fig. 6 is a flowchart showing displaying, returning, transferring, and transmitting processes

of existing messages;

Fig. 7 is a list showing received messages;

Fig. 8 is a flowchart showing the process of displaying a received message list;

Fig. 9 is a flowchart showing the process of displaying messages and a receiver state list 24 linked with each other;

Fig. 10 is a flowchart showing the process of setting date and time when a mail is opened;

Fig. 11 is a flowchart showing setting a comment;

Fig. 12 is a flowchart showing a completion check process;

Fig. 13 is a flowchart showing the process of calculating an open ratio;

Fig. 14 is a flowchart showing the process of calculating a completion check ratio;

Fig. 15 is a table showing a display state in which messages and a receiver state table are displayed linked with each other;

Fig. 16 is a flowchart showing amending a transmitted message and returning the thus-amended message in a not-opened state;

Fig. 17 is a received-message list 31;

Fig. 18 is a diagram showing a message edition screen;

Fig. 19 is a flowchart showing a process corresponding to the designation of an examiner and an approver;

Fig. 20 is a flowchart showing an examination process; Fig. 21 is a flowchart showing an approval process;

Fig. 22 is a flowchart showing the process of storing received messages as a to-do list;

Fig. 23 is a table showing a to-do list;

Fig. 24 is a table showing the data configuration of a message type/comment pattern table 32;

Fig. 25 is a flowchart showing the process of automatically setting the comment pattern corresponding to a message type at the time of transmitting a message;

Fig. 26 is a flowchart showing the process of automatically setting the comment pattern corresponding to a message type when receiving a message;

Fig. 27 is a screen for inputting a chosen comment;

Fig. 28 is a flowchart showing the process of extracting the contents of a comment to be shown as statistics;

Fig. 29 is a table showing the data structure of

a keyword table 33;

Fig. 30 is a table showing the data structure of an active keyword table 34;

Fig. 31 is a list for extracting keywords; and

Fig. 32 is a diagram explaining the case where a program is stored in a storage medium.

Description of the Preferred Embodiments

Embodiments of the present invention will be explained below with reference to the drawings. Fig. 1 is a block diagram showing the system configuration of a message processing system according to an embodiment of the present invention.

According to this message processing system, a plurality of terminals 11 are connected to a server 13 through a line network 12 such as a LAN or the like. A message processing program 14 of the server 13 has the functions of preparing and transmitting a message for the terminals 11, as well as a function of displaying the list of received messages, the list of messages to be transmitted, received messages, and the like. A message file 15 is a file in which the information on a message sender side is stored. The title of the message a sender ID, the contents of the message or the like are stored in the message file 15.

A message management table 16 is a table in which the information on a message receiver side is stored. A receiver ID, completion time and date, and comments to a message or the like are stored in the message management table 16. A member table 17 is a table for storing information about members who are destinations of messages. In this table, a member ID, names, a group which the members belong to or the like are stored.

Fig. 2 shows configurations of the message file 15, the message management table 16, and a member table 17, which are mentioned above.

The message file 15 includes a region 15a for storing a message ID to be assigned to each message, a region 15b for storing a sender ID, a region 15c for storing transmission time and date, a region 15d for storing the due date of a response to the message, a region 15e for storing a message type such as a job request, a display operation or the like, a region 15f for storing information about whether or not the message is confidential, a region 15g for storing a title, and a region 15h for storing the contents of the message. Further, the message file 15 includes a region 15i for storing time and date when a message is updated, a region 15j for storing the ID of an

examiner who examines whether or not the message is approved, a region 15k for storing examined results, a region 15L for storing the ID of an approver who approves the message after this message is examined, a region 15m for storing the approved results, a region 15n for storing the information about whether or not the examined and approved message is readable, and a region 15p for storing a comment pattern which is specified by the sender. The message file 15 further includes regions for storing attribute information such as the requirement for comments, important comment, urgent comment or the like, other than the above mentioned regions.

The message type is the information indicating which one of a job request, an investigation, a process of making all of a specific matter fully recognized, requirement for opinions or requests from the members, or the like, is the content of a message. According to the present embodiment, if a message type is selected by a sender when a message is prepared, an attribute such as the requirement for the comment to be included in a response, the requirement for a NO/YES answer or the like, is automatically set according to the thus-selected message type. In the case where the investigation with a time limit, for

example, is selected as a message type, attributes of a "requirement for comments", and "with a time limit" are automatically set to the message. Accordingly, the sender does not need to set every attribute to each of all the messages.

Next, the message management table 16 includes a region 16a for storing a message ID, a region 16b for storing a receiver ID, a region 16c for storing time and date when the message is opened, a region 16d for storing the completion time and date when the receiver opened the message and operated a definition button which will be described later, and a region 16e for storing comments to the message. The data stored in the message management table 16 are corresponded to the data stored in the message file 15 by the message ID.

The member table 17 includes a region 17a for storing the member ID, a region 17b for storing a name, and a region 17c for storing a group to which the members belong. This member table 17 is used for looking for a member ID when the group to which the member belongs to and the name are designated.

Next, the operations of a message processing system having the above-mentioned configuration will be explained. Fig. 3 is a flowchart showing the

outline process of transmitting a message.

First, a sender inputs a user ID from the terminal 11 and logs on to the server device 13. When the sender performs operations for newly transmitting a message, a message processing program 14 of the server 13 displays a preparation screen for newly transmitting a message on the terminal 11 (S11 shown in Fig. 3).

Fig. 4 is a table showing the display state at the time of transmitting a message. Sections for inputting a destination, a message type, a title, a text or the like are displayed. On the right of the display screen, an enter button 21 and a clear button 22 are displayed. When a message is prepared and the enter button 21 is clicked, the message is transmitted, and the data which are inputted to the message file 15 are written in these sections. When the clear button 22 is clicked, the inputted data are cleared.

The sender of a message inputs the text of a message to be transmitted, and at the same time sets a destination, a message type, and the necessity or unnecessity of examination and approval. When the examination and approval are required, the sender sets the names of an examiner and an approver (S12). The

destination, the message type, and the like can be optionally selected from predetermined alternatives.

When the message type is inputted, the message processing program 14 of the server 13 sets attributes corresponding to this message type (S13).

When a box indicating "with examination and approval" is clicked, and the names of an examiner and an approver are set, a check box provided in the section of "with examination and approval" is displayed black, and a process corresponding to the designation of the examiner and the approver is performed (S14).

Next, a sender ID, a message ID, a message type, a time limit, an examiner ID, an attribute corresponding to a message type, information indicating that only the examiner, approver, and sender can read the message, and the like are inputted in the message file 15 (S15).

Therefore, when a sender selects a job request as a message type as shown in Fig. 4, a "requirement for comments" and "with a time limit" are automatically set as attributes. Since the check boxes provided in "a requirement for comments" and "with a time limit" section are displayed black as shown in Fig. 4, the sender does not need to set every

attribute.

When the "requirement for comments" is set as the attribute of a message, a state of the message receiver is not in a termination state until the sender inputs comments even if a message is opened on a receiver side, and the definition button is clicked. When a time limit is set, and this time limit expires without completing a business, the sender can recognize the presence of a message which should be urgently handled, since the number of days delay from the time limit is displayed on a received message list, which will be described later.

When a destination is designated by a sender, and the enter button 21 is clicked, a receiver ID is written corresponding to the message ID of the message management table 16. Further, that time is written in the region 15c for storing the transmission time and date of the message file 15, as a transmission time and date (S16).

Next, a process of setting attributes corresponding to the message type of step S13 shown in Fig. 3 will be explained with reference to the flowchart shown in Fig. 5.

First, it is determined whether or not a message type is a "message" (S21 shown in Fig. 5). When the

message type is the "message", the flow advances to step S22, and "capability of deleting a message by a receiver" is set as the attribute of the message.

When it is determined in step S21 that the message type is not a "message" (NO in step S21), the flow advances to step S23, and it is determined whether or not the message type is a "time limit check". If the message type is the "time limit check", the flow advances to step S24, and the "requirement for comments" and "with a time limit" are set as attributes.

When it is determined in step S23 that the message type is not the "time limit check" (NO in step S23), the flow advances to step S25, and it is determined whether or not the message type is a "job request". If the message type is the "job request", the flow advances to step S24, and the "requirement for comments" and "with a time limit" are set as attributes.

When it is determined in step S25 that the message type is not the "job request" (NO in step S25), the flow advances to step S26, and it is determined whether or not the message type is a "check with a filing time limit". If the message type is the "check with a filing time limit", the flow advances

to step S24, and the "requirement for comments" and "with a time limit" are set as attributes.

When it is determined in step S26 that the message type is not the "check with a filing time limit" (NO in step S26), the flow advances to step S27, and it is determined whether or not the message type is a "YES/NO check". If the message type is the "YES/NO survey", the flow advances to step S28, and the "requirement for a YES/NO check" and "with a time limit" are set as attributes.

When it is determined in step S27 that the message type is not the "YES/NO check" (NO in step S27), the flow advances to step S29, and it is determined whether or not the message type is a "process of making all of a specific matter fully recognized". If the message type is the "process of making all of a specific matter fully recognized", the flow advances to step S30, and the "requirement for the automatic display of an agreement check" is set as an attribute.

When it is determined in step S29 that the message type is not the "process of making all of a specific matter fully recognized" (NO in step S29), the flow advances to step S31, and it is determined whether or not the message type is a "memorandum". If

the message type is the "memorandum", the flow advances to step S32, and "confidential" is set as an attribute. If the "memorandum" is set as a message type when preparing a message, this message designates the sender, and the attribute becomes confidential. Therefore, the sender can store this message to be seen only by himself or herself.

When it is determined in step S31 that the message type is not the "memorandum" (No in step S31), the flow advances to step S33, and it is determined whether or not the message type is a "requirement for opinions". If the message type is the "requirement for opinions", the flow advances to step S34, and the "requirement for comments" is set as an attribute.

When it is determined in step S33 that the message type is not the "requirement for opinions", that is, the message type does not correspond to any one of the above-mentioned items, or the attribute according to the message type is set in the attribute section on the message preparation screen, attributes which are set in the attribute section are written in the corresponding region of the message file 13 (S35).

As mentioned above, an attribute for requesting a receiver to input comments, to answer YES or NO, or the like is set according to the message type. Then

the receiver performs operations according to this request. Thus, it can be confirmed whether or not the subject of the message is accurately informed to the receiver or whether the receiver approves or disapproves of the message.

The displaying, returning, transferring, and the transmitting processes of the thus-transmitted message will be explained with reference to the flowchart shown in Fig. 6.

When the user of the terminal 11 performs the operations of displaying the received message, the message processing program 14 of the server 13 detects the message ID of the received message from the message management table 16 using the user ID. Then, a list 20 of the received message as shown in Fig. 7 is displayed (S41 shown in Fig. 6).

Here, the contents of the process of displaying the received message list 20 in step S41 shown in Fig. 6 will be explained with reference to the flowchart shown in Fig. 8.

First, the member ID of a user, who is logged on to the terminal 11 to which a request of displaying the message list has been made, is set as a receiver ID (Fig. 8, S51). Next, the message management table 16 is detected using the receiver ID as a key, and a

corresponding message ID is extracted (S52). Then, the message type, the state, the title of each message and the like are obtained from the message file 15 based on the thus-extracted message ID (S53). The information about each of the thus-obtained items is edited to be displayed on a corresponding terminal 11 as the received message list 20 (S54).

Before opening a message, the receiver can determine from the received message list 20 shown in Fig. 7, which kind of message the received message is, that is, a job request, a time limit check, a process of making all of a specific matter fully recognized, a personal mail, or the like. Further, the receiver can determine whether or not the message is an urgent message, an important message or the like, from the attribute information.

Both a formatted message such as a business work flow, and a non-formatted message such as a personal mail, can be displayed on the received message list 20 together with the message type. Therefore, the receiver can simultaneously manage all the received messages.

Further, the receiver can determine whether or not a not-opened massage or a message of which a time limit has expired is present. Further, the receiver

can also determine the answer states, how many members have completed their businesses, and what the completion ratio is, from the completion states of the messages. If a time limit expires in an unfinished state, a flame mark or a receiver's angry face, etc. which is not shown in Fig. 7, is displayed, and this mark or face gradually becomes larger as the number of days delay from the time limit increases, thereby informing the receiver of the degree of delay.

In the case where the receiver wishes to read a message as shown in Fig. 6, he or she clicks the title of a message of the received message list 20, which the receiver wishes to open (S42). When instructed to open the message, the message processing program 14 of the server 13 reads out the contents of the designated message from the message file 15, and displays the thus-read-out message on the screen of the terminal 11 (S43). Further, a receiver state list 24 indicating the completion state of the receiver of the message, comments, and the like are displayed on the terminal 11 linked with the message (S44).

A process of displaying a received message and the receiver state list 24 linked with each other will be explained with reference to the flowcharts shown in Figs. 9 to 14 and the display states shown in Fig.

15.

First, the message type, the title, the transmission date, the message contents, and the sender ID of each message are obtained based on the message ID of the received message list 20 (S61 shown in Fig. 9). Then, a process of setting the time and date when a message is opened, which is shown in step S62, is performed.

The process of setting the time and date when a message is opened will be explained with reference to Fig. 10. First, it is determined whether or not a message is opened according to a fact that whether or not the time and date has been stored in the region 16c, of the message management table 16, for storing the time and date when a message was opened (S81 shown in Fig. 10). In the case where the message has been opened, the process terminates at this point. In the case where the message is not opened, the current time and date are obtained since the message is opened for the first time (S82). Then, the thus-obtained time and date are set as the open time and date, in the open time and data section of the display and edition region of a message (S83).

Next, a process of setting comments in step S63 shown in Fig. 9 is performed.

This process of setting comments will be explained below with reference to Fig. 11. The message management table 16 is detected using the message ID and the receiver ID. Then, it is determined whether or not comments are stored in a storage region 16e for storing the comment, corresponding to the message ID and the receiver ID (S91 shown in Fig. 11). In the case where comments are not stored, the process terminates at this point. In the case where comments are stored in the region 16e of the message management table 16, these comments are set in a comment input section on the screen (S92).

Thus, in the case where the receiver has already set comments in a message, the thus-set comments are displayed in the comment input section of the message.

Then, a completion check process in step S64 shown in Fig. 9 is performed.

This completion check process will be explained with reference to Fig. 12. First, it is determined whether or not a completion check is designated, that is, whether or not a receiver has already operated the definition button 23 after confirming the contents of a message (S101 shown in Fig. 12). In the case where the completion check is not designated, that is, the

receiver has not performed operations for the completion, the process terminates at this point. In the case where the completion check is designated, on the other hand, a completion operation is set in the completion check section on the screen (S102).

A process of calculating an open ratio in step S65 shown in Fig. 9 is performed.

The process of calculating an open ratio will be explained with reference to the flowchart shown in Fig. 13. First, data of all the receivers corresponding to the designated message ID are obtained from the message management table 16 (S111 shown in Fig. 13). Next, the number of receivers whose open time and date are set in the message management table 16 is calculated (S112). Then, the number K of receivers who opened the messages is divided by the number of all the receivers so that the open ratio is obtained by multiplying the resultant number by [100] (S113).

Next, a process of calculating a completion check ratio is performed in step S66 shown in Fig. 9.

This process of calculating a completion check ratio will be explained with reference to the flowchart shown in Fig. 14. First, data of all the receivers corresponding to the designated message ID

are obtained from the message management table 16 (S121 shown in Fig. 14). Next, the number of receivers whose completion dates are set is calculated (S122). Then, the number C of receivers who have completed their businesses is divided by the number of all the receivers so that the completion check ratio is obtained by multiplying the resultant number by [100] (S123).

In step S67 shown in Fig. 9, the message type, the transmission time and date, the title, the contents of a message, the sender's name, the open ratio, and the completion check ratio which are obtained according to the above-mentioned processes are transferred to the display and edit region for storing display data at the time of editing a message. Then, the data stored in the display and edit region are displayed as a message display screen (S68).

Next, a receiver ID is obtained by referring to the message management table 16 according to the message ID of the selected message (S69). In this process, the message management table 16 is detected using the massage ID as a key so that the corresponding receiver ID is obtained.

Next, the open time and data, the completion time and data, and comments which are stored corresponding

to the receiver ID are obtained (S70). In this case, data in which the open time and data, and the completion time and data have not been stored, are handled as not-opened and not-completed data. Further, a name corresponding to the receiver ID is obtained by referring to the member table 17 using a receiver ID as a key. Accordingly, the thus-obtained name is set as a receiver's name (S71).

The receiver's name, the open time and data, the completion time and data, and comments which are obtained by the above-mentioned processes are transferred to the display and edit region (S72). It is determined whether or not processes terminate for all the receivers who are stored in the message management table 16, corresponding to the message ID (S73). In the case where processes do not terminate for all the receivers, the process returns in step S69, and the above-mentioned processes repeat. In the case where processes terminate for all the receivers, on the other hand, the contents of the display and edit region are displayed as the receiver state list 24 (S74).

According to the above-mentioned processes, a received message and the receiver state list 24 are displayed linked with each other. After the process

returns to processes shown in Fig. 6, the receiver closes the message by operating one of the definition button 23, a return button 26, and an existing-message-transmission button 27, shown in Fig. 15, while the message and the receiver state list 24 are being displayed (S45).

In the case where the definition button 23 is operated, the process advances to step S46, and the current time and data are written in the region 16d for storing completion time and data in the message management table 16. If comments are inputted, the thus-inputted comments are written in the storage region 16e for storing a comment.

In the case where the return button 25 is operated, the process advances to step S47, and a return process is performed for newly preparing a message which designates a sender of the message as a destination.

In the case where the transfer button 26 is operated, the process advances to step S48, and a transfer process is performed for transferring the received message to another person as it is. Further, in the case where the existing-message-transmission button 27 is operated, the process advances to step S49, and an existing-message-transmission process is

performed for newly preparing a message using the text of the received message.

Fig. 15 shows tables indicating the display states when a message and the receiver state list 24 are displayed linked with each other according to the above-mentioned processes.

When the title of a specific message is clicked while the received message list 20 is being displayed, the message type, the title, the contents of the message, and the like are displayed. If this is the first opening, the current time and date are stored in the region 16c for storing time and date when the message management table 16 is opened. After the contents of the message are confirmed, the receiver performs an YES/NO check, inputs comments, or the like according to the message type. After that, when the definition button 23 is operated, the comments which are inputted to a comment section are written in the storage region 16e for storing the comment of the message management table 16, and the time and date when the definition button 23 is operated are written in the storage region 16d for storing completion time and date, as completion time and date. In the case where the "requirement for comments" or the "requirement for an YES/NO check" is set as an

attribute of the message at this time, a process is not handled as completed even if the definition button 23 is operated without inputting comments or performing the YES/NO check. Consequently, the completion time and data are not written in the message management table 16.

According to this embodiment, when a message is displayed, a sender of the message and all receivers thereof can observe the states of the receivers of the message, that is, whether or not each receiver opens the message, whether or not each receiver confirms the message, whether or not a completion state is obtained by completing the matter described in the message, or what kind of comments each receiver makes on the message. Therefore, for example, in the case of a message for confirming the progress of the business of a member of a group, the states of all the members can be determined by looking at the message, the completion state in a receiver state list, comments and the like. Accordingly, the leader of the group can determine the states of all the members without reading the respective messages transmitted from the members. Since a member can determine the states of the other members, members can share information similarly to the case where all the members get

together and report their states to each other. Therefore, the present invention can provide a virtual electronic space for performing a series of operations such as instructions and prosecutions of the business, reports on the states thereof, or the like.

Next, processes of amending a transmitted message and returning the amended message in a not-opened state will be explained with reference to the flowchart shown in Fig. 16.

When operations for displaying the list of messages to be transmitted is performed by a user, the message processing program 14 of the server 13 detects the message of a sender ID which corresponds to the user ID inputted from the terminal 11, from the message file 15. Then, this program displays a transmission message list 31 including a message type, a completion state, a title, transmission time and date, a time limit, an amendment button 32, and a deletion button 33 as shown in Fig. 17 (S131 as shown in Fig. 16). In a state section 31a of the transmission message list 31, the number of receivers who transmit completion responses among the receivers of messages, and the completion ratio are displayed.

The sender looks at this list and clicks the title of a message to be updated or the amendment

button 32 (S132).

The message processing program 14 determines whether or not the amendment button 32 is operated (S133). In the case where the amendment button 32 is operated, data of a message which is designated by the message file 15 are read out, and a message edition screen shown in Fig. 18 is displayed (S134). On this message edition screen, the message type, the title, the text, the sender's name, the attributes, the examination and approval, the destination to be deleted, and the destination to be added, which are read out from the message file 15 are displayed.

The sender changes a message type, a title, a text, an attribute, a completion state section, and a destination if necessary (S135). After the sender amends the necessary data, and he or she clicks an update button 34 while he or she keeps a check button for determining whether or not data should be returned in the not-opened state in a completion state section, in a check state (shown as a black box in Fig. 18), or in a not-checked state (S136). When the thus-amended data are transmitted as a new message, a new transmission button 35 is clicked. When the message is deleted, a delete button 36 is clicked.

The message processing program 14 determines

whether or not a message is returned in a not-opened state, according to a fact about whether or not a check box for returning in a not-opened state is checked (S137).

In the case where the message is returned in a not-opened state, the open time and date, and the completion time and date of the corresponding message ID of the message management table 16 are cleared (S138). Next, the current time and date are obtained (S139) to be written in a region 15i for storing the update time and date of the message file 15 (S140). Further, the amended data are written in the corresponding storage region of the message file 15 (S141). In the case where the message is returned in a not-opened state, since the comments which the receiver wrote are kept as they are, response operations terminate after operating the definition button 23 if the receiver displays the amended message, confirms the contents, and needs not change the comments.

For example, when such an amendment requires the addition or deletion of a destination, and the sender sets a check box for returning a message in a not-opened state, in a not-checked state, the flow advances from step S137 to step S139. At this time,

the update time and date are written in the message file 15 without clearing the completion time and date.

In the case where it is determined in step S133 that the amendment button 32 is not clicked, that is, a title is clicked, the flow advances to step S142, and the designated message and receiver states are displayed linked with each other. When the title section of a message is further clicked displaying the message, the screen changes to a screen for editing a message (S143), and the processes in and after S134 are performed.

Thus, in the case where data of the transmitted message are changed, the message can be returned in the not-opened state. Accordingly, when a message is amended, it is not necessary to prepare a new message again to be transmitted, so that the operations for preparing a message can be reduced. In the case where the amended message requires comments, and the comments to the amended message need not to be changed, the receiver neither prepares a new response message nor inputs comments to the received message, since the comments which were previously prepared are stored as they are. Therefore, the operations for a message response are reduced.

Next, the contents of a process corresponding to

the designation of a sender and an approver, which is shown in step S14 shown in Fig. 3, are explained with reference to the flowchart shown in Fig. 19.

First, it is determined whether or not the designation of the examination and approval is present on a message transmission screen (S151 shown in Fig. 19). If YES, it is determined whether or not the designation of an examiner is performed (S152). In the case where the examiner is designated, it is further determined whether or not the approver is designated (S153).

In the case the examiner is not designated, the flow advances to step S154, and it is determined whether or not the designation of the approver is performed. When the approver is designated, the error display of an examiner designation is performed (S155). When the approver is not designated, the error display of an approver designation is performed in step S155. When the sender designates an examiner or an approver (S156), the flow returns in step S151.

In the case where an examiner and an approver are designated (YES in steps S152 and S153), an ID of the designated examiner is written in a region 15j for storing the examiner ID of the message file 15 (S157).

Next, an ID of the designated approver is written

in a region 15L for storing the approver ID of the message file 15 (S158).

Further, in order that the other users cannot read this message until the examination and approval are completed, data such that only the examiner and approver can read this message are written in a region 15n for storing the data indicating whether or not the message file 15 is readable.

Next, the examination and approval processes will be explained with reference to Figs. 20 and 21. At the time of log-on, if there is a message to be examined and approved by a user who logs on to a server, a message to be examined and approved is specified in a received message list which has not been checked. Accordingly, the examiner clicks the corresponding title. When the title is clicked, the message processing program 14 detects a received message ID of the message management table 16 according to the user ID of the examiner which is inputted from the terminal 11. Further, this program 14 determines whether or not the designated message obtained by detecting the message file 15 according to the message ID is a message which requires the examination and approval. In the case where the received message requires the examination and approval, it is

determined whether or not the examiner ID corresponds to the user ID, which are set in the message file 15. If these IDs correspond to each other, this message is displayed in step S161 shown in Fig. 20 .

The examiner confirms the contents of the displayed message, and inputs "pending", "examined", or "deletion" in the examination and approval section of the message (S162). The message processing program 14 writes the examination results which are inputted to the examination and approval section, in a region 15k for storing the examination results of the message file 15 (S163).

Similarly to the above-mentioned examination, when the approver clicks the title of a message which requires the approval of a received message list 20 which has not been checked, the message processing program 14 detects the message file 15 according to the message ID of the designated message, and determines whether or not the designated message requires the examination and approval. If the received message requires the examination and approval, the message processing program 14 determines whether or not the approver ID which is set in the message file 15 corresponds to the user ID which is inputted from the terminal 11. If the IDs correspond to each other,

this message is displayed in step S171 shown in Fig. 21.

Further, the message processing program 14 determines whether or not the message is examined, that is, whether or not data are written in a region 15k of the message file 15 for storing the examination results corresponding to the message ID (S172). In the case where no data are written, the process terminates at this point. When data are written in, it is determined whether or not the examination results have been examined (S173).

When a message has been examined, the approver confirms the contents of the message and inputs "pending", "examined", or "rejection" (S174).

Then, the message processing program 14 writes this inputted "pending", "examined", or "rejection" in a region 15m for storing examination results of the message file 15 (S175). Further, this message processing program 14 determines whether or not the approved results are actually "approved" (S176). If the result is "approved", the message processing program 14 writes information indicating that the message is readable, in a region 15n for storing whether or not a message is readable, and makes this message readable (S177).

Next, a process of storing a received message as a to-do list will be explained with reference to Fig. 22.

First, the received message list 20 is displayed (S181 shown in Fig. 22). If the receiver clicks the title of a specific message regarding this list (S182), the contents of this message are displayed (S183). Further, a receiver state list 22 is displayed (S184). After the receiver operates one of a definition button, a return button, a transfer button, and an existing-message-transmission button (S185), it is determined which one of the transfer button 21 (S186), an existing-message-transmission button 25 (S187), or other buttons is the thus-operated button. In the case where the thus-operated button is the transfer button 24, the original sender's name as well as the original transmission time and date are added to the text, and further a transfer operation is added to the title (S188). At the process after step S188 or after the existing-message-transmission button 25 is operated (S187), a new transmission screen is displayed, and the contents of the original received message are set (S189). The above-mentioned process is basically the same as that performed from step S41 to step S49 shown in Fig. 6.

The receiver changes the message type or the like on screen if necessary (S190). For example, the receiver sets a memorandum as the message type of an existing message to be transferred or to be used.

The message processing program 14 determines whether or not the message type is a memorandum. If the message type is a memorandum, its attribute is made to be confidential, and the destination is made to be a user ID (S192).

Fig. 23 is a table showing the display screen of a to-do list. A memorandum is displayed as a message type, a transfer operation is displayed in a title section, and the transmission date and the sender of an original message are displayed in a text section. In this case, the message type is a memorandum and the destination is the user thereof. Therefore, it is displayed in the receiver state list 22 that the user is the only receiver.

If the process returns to those processes shown in Fig. 22, and the execution button 21 is operated, the contents of a new transmission screen are written in each region of the message file 15 (S193). Further, the destination is written in the receiver ID of the message management table 16 (S194).

According to these processes, when the completion

schedule of business or the like is reported in a message response, the response message can be stored as a confidential message by making the message type a memorandum. Thus, it can be confirmed whether or not a matter is promised the completion date of business is present, according to a memorandum.

Below is the explanation of the embodiment in which a receiver can automatically set the type of a comment to be answered on a receiver's side, when preparing a message.

In this embodiment, a message type/comment pattern table 32 as shown in Fig. 24 is provided. This table 32 stores a comment pattern and the contents of the comment pattern (comment alternative which will be described later) corresponding to a message type. In the section of the contents of the comment pattern shown in Fig. 24, a comment alternative to which a "reason" is added is an extension requiring the reason why the comment alternative is selected. When the receiver selects "refusal" or "pending" as a comment, it is necessary to input the reason.

In Fig. 24, only one kind of comment pattern is displayed for a single message type. However, a plurality of comment patterns are stored for a single message type, and they are displayed when a message

type is designated, so that a sender can select an arbitrary comment pattern among them.

A text, a destination or the like are first inputted on the preparation screen of a new message (S201 shown in Fig. 25), and a message type is set (S202).

The message processing program 14 detects the message type/comment pattern table 32 according to the thus-inputted message type (S203). It is determined whether or not the corresponding comment pattern is present (S204). When a comment pattern is present, this comment pattern is obtained (S205). Further, its attribute is displayed in an attribute section, and the thus-obtained comment is displayed in a comment section (which is newly prepared on the message transmission screen shown in Fig. 4) (S206). When the sender completes the preparation of a message and operates the execution button 21, the comment pattern displayed in a comment section is written in a region 15p for storing a comment pattern of the corresponding message of the message file 15 (S207).

According to this embodiment, when the sender designates a message type, a comment pattern corresponding to this message type is automatically selected. Then, the comment pattern and the contents

of the comment pattern, for example, a comment alterative such as "approval", "rejection", "pending", or the like are displayed in the message comment section on a receiver side. Consequently, the receiver can prepare comments by selecting one of such comment alternatives. Thus, since the receiver prepares comments by selecting a specific comment alternative from a plurality of comments alternatives which are designated by the sender, comments can be obtained from the receiver based on the sender's intention.

Next, a process of automatically setting comments at the time of receiving a message will be explained with reference to Fig. 26.

When the receiver clicks the title of the received message list 20 to designates the message to be opened, the message type, the comment pattern, the title, the context, the comment alternative of the designated message, and the like are read out from the message file 15, thereby displaying these on the screen of the terminal 11 (S211 shown in Fig. 26).

When a comment pattern is set in a region 15p for storing the comment pattern of the corresponding message of the message file 15, the contents of a further-set comment pattern, that is, a comment alternative, are read out from the message

type/comment pattern table 32, so that the comment pattern and the comment alternative are displayed in the comment section (S212).

When the receiver clicks one of the displayed comment alternatives to selects a response comment (S213), the message processing program 14 determines whether or not an extension (for example, an extension requiring a comment to be added) is added (S214). In the case where an extension is added, the contents of the extension are displayed in the comment section on a message display screen (S215). The receiver inputs comments corresponding to the contents of the displayed extension (S216).

For example, when a comment alternative such as "approval", "rejection (reason)", "pending (reason)", "others ( )", "consultation request ( )", or the like is displayed in the comment section of the input screen of a comment alternative as shown in Fig. 27, if the check box of each comment alternative is clicked, the thus-clicked check box becomes checked, and the corresponding comment is selected as a response comment. If this comment is one which is set by an extension (shown as (reason) in Fig. 27), a word such as "reason" is displayed in the comment section, and the reason why this comment alternative was

selected is required.

If the process returns to Fig. 26, the input of comments terminates, and the definition button 23 is operated, the message processing program 14 writes the comments which are inputted to the comment section, in a storage region 16e for the comment corresponding to the receiver ID of the message management table 16.

Thus, in the case where a comment pattern is set by a sender, a comment alternative corresponding to the thus-set comment pattern is displayed. Therefore, a receiver can easily prepare a comment which is suitable for the answer required by the sender, only by selecting the comment among comment alternatives.

Next, an extraction statistic process of extracting keywords from the contents of the receiver's comments and obtaining the occupation ratio of each keyword will be explained with reference to the flowchart shown in Fig. 28.

First, the designated message and the receiver state list 24 are displayed linked with each other (Fig. 28, S221). Then, it is determined whether or not a detection operation is performed using a keyword table 33 shown in Fig. 29 (S222). When the detection operation is performed using the keyword table 33, the process advances to step S223, and the contents of the

keyword tables 33 are displayed on the terminal 11. The sender selects the name of an optimum keyword from the keyword table 33 taking the contents of the comments into consideration (S224). The keyword corresponding to the thus-selected keyword name of the keyword table 33 is set in an active keyword table 34 shown in Fig. 30 (S225).

If the keyword table 33 is not used (NO in step S222), a user selects the necessary words from the comment section of the receiver state list 24 (S226).

The message processing program 14 sets the words which are selected by the user in the active keyword table 34 (S227). Then, it is determined whether or not the input operation of words to be set as keywords terminates (S228).

If the selected keywords of the keyword table 33 are set in the active keyword table 34, or the input operation of the keywords, which is performed by the user, terminates, keywords are sequentially retrieved from the active keyword table 34. Next, the comment section of the receiver state list 24 is detected so that the number of keywords which correspond to each other is counted (S229). Then, the thus-counted number is set as the number corresponding to the keywords of the active keyword table 34 (S230). Next, it is

checked whether or not keywords which are not aggregated in the active keyword table 34 are present, and it is determined whether or not all the keywords have been already aggregated (S231). If all the keywords are aggregated in the active keyword table 34, a keyword extraction list 35 shown in Fig. 31 is prepared to be displayed following the receiver state list 24 (S232).

According to the extraction statistic of the contents of a comment, it can be obtained how many users approve or dispute the contents of the messages, how many users reserve their decisions, or the like from the receivers' comments to the messages. Further, each ratio thereof can be obtained.

Fig. 32 is a diagram explaining the case where the above-mentioned message processing program 14 is first stored in a portable storage medium 44 such as a CD-ROM, a floppy disk or the like, or a storage apparatus which a program provider has, and then this program is loaded to a processor 41 to be executed.

In the case where this program is stored in the portable storage medium 44 such as a CD-ROM, a floppy disk or the like, the portable storage medium 44 is inserted to a drive apparatus 42, thereby reading out this program. Then, the thus-read-out program is

stored in a memory 43 such as a RAM, a hard disk or the like, thereby executing this program. In the case where a program is provided from a program provider thorough a communication line, the program which is stored in a storage apparatus, a memory of the program provider, or the like is received in the processor 41 through the communication line. Then, the thus-received program is stored in the memory 43 such as a RAM, a hard disk or the like to be executed. A program to be stored in the storage medium can include a part of the function of the above-mentioned message processing program 14. For example, a program for managing the receiver state list 24 and a program for displaying the receiver state list 24 on the terminal 11 are respectively stored in different storage media, so that the respective programs can be executed by a message processing equipment or a terminal.

According to the above-mentioned embodiment, the message file 15, the message management table 16, and the like are stored in the storage apparatus of the server 13. By contrast, a storage apparatus for storing a message can be provided independently from the server 13, and the server 13 can write a message in the storage apparatus or can read out a message from the storage apparatus, through a communication

line.

According to the present invention, since a message and a receiver state list indicating the states of a receiver of this message are displayed linked with each other, the sender of a message or all the receivers can determine simultaneously the states of all the receivers of the messages, for example, whether or not each receiver approves the message or whether or not his or her business is completed, together with the contents of the message. Since information indicating whether or not the message has been opened, whether or not the message has been confirmed, and completion information indicating whether or not the receiver's business has been completed, are displayed as a receiver state list, the completion states of all the receivers can be determined simultaneously. Further, since a formatted message like a work flow related to the business and a not-formatted message for an individual receiver are displayed in a list together with the respective message types, messages with different objectives can be referred to on the same display screen together with their message types. Further, since a sender sets keywords, and performs a statistical process by extracting keywords from the receiver's comments, he

or she can effectively obtain the receiver's response or reaction to the message as statistically analyzed data.

What is claimed is:

1. A message processing apparatus for processing messages transmitted from a plurality of terminals comprising:

preparation means for preparing a receiver state list indicating states of a plurality of receivers of a message whose destinations are the plurality of receivers; and

management means for managing information in the receiver state list.

2. The message processing apparatus according to claim 1, wherein the receiver state list includes completion information indicating that receiver confirms the message, or a business related to the message is completed.

3. The message processing apparatus according to claim 2, wherein content of the message and the receiver state list are displayed on a terminal, linked with each other.

4. The message processing apparatus according to claim 1, wherein the receiver state list includes open

information indicating open states of the message of the plurality of receivers, and completion information indicating that the message is confirmed, or that business related to the message is completed.

5. The message processing apparatus according to claim 1, comprising:

storage means for storing content of the message, receivers' names, and completion information indicating that receiver confirms content of the message, or that business related to the message is completed, corresponding to each other, wherein

the preparation means prepares the receiver state list based on the receivers' names and the completion information.

6. The message processing apparatus according to claim 5, comprising:

amendment means for amending contents of transmitted message stored in the storage means, and

recovery means for recovering all the receivers' open information indicating whether or not the receiver opens the message from an opened state to a not-opened state when the message is amended by the amendment means.

7. The message processing apparatus according to claim 5, wherein

the storage means stores comments prepared by the receivers for the message, and

the recovery means makes the comments stored in the storage means be stored as they are, when the transmitted message is amended by the amendment means.

8. The message processing apparatus according to claim 5, wherein

the storage means stores message type of the message, and

the preparation means prepares the receiver state list according to the message type, the receivers' names, and the completion information.

9. The message processing apparatus according to claim 8, comprising:

set means for displaying comment alternatives of comment pattern which correspond to the message type of the received message, in comment section of the received message, and for setting comment pattern which corresponds to comment alternative selected by receiver as the receivers' comment to the received message, wherein

the storage means includes a comment pattern storage portion for storing, corresponding to the message type, the comment pattern and the comment alternatives which correspond to the comment pattern.

10. The message processing apparatus according to claim 1, for enabling a sender and all receivers of the message to confirm content of the message and the receiver state list on screens of terminals.

11. The message processing apparatus according to claim 1, wherein

a comment section for inputting comment to received message is provided in the message, and comment inputted to the comment section is displayed as comment of respective receiver, in the receiver state list.

12. The message processing apparatus according to claim 1, wherein

delay state regarding response time limit which is set in the message is displayed as delay information in a received message list.

13. The message processing apparatus according to

claim 1, comprising:

open ratio obtaining means for obtaining an open ratio of the message from the open information indicating an open state of the receiver of the message, and

display means for displaying the open ratio of the message in a message list.

14. The message processing apparatus according to claim 1, comprising:

completion ratio obtaining means for obtaining a completion ratio from the completion information indicating that receiver of the message confirms the message, or that business related to the message is completed, and

display means for displaying the completion ratio which is obtained from the completion ratio obtaining means, in a message list.

15. The message processing apparatus according to claim 1, comprising:

detection means for detecting designated keywords from receivers' comments; and

aggregation means for aggregating a number of comments which include the keywords detected by the

detection means, wherein

a number of comments including the designated keywords is displayed on a terminal.

16. A message processing apparatus for processing messages transmitted from a plurality of terminals, comprising:

preparation means for preparing a message list of displaying a formatted type message related to a process of business and a non-formatted type message related to a process other than business, together with a message type; and

management means for managing information in the message list.

17. A message management method for managing messages transmitted from a plurality of terminals, comprising the step of:

displaying a formatted type message related to a process of business and a non-formatted type message related to a process other than business, together with a message type.

18. A message management method for managing messages transmitted from a plurality of terminals, comprising

the steps of:

preparing a receiver state list indicating states of a plurality of receivers of message whose designations are the plurality of receivers, and

displaying the receiver state list on a terminal.

19. The message management method according to claim 18, wherein

said displaying step is to display the receiver state list linked with content of the message.

20. The message management method according to claim 18, wherein

the receiver state list includes receivers' names and completion information indicating that receiver confirms the message, or that business related to the message is completed,

said displaying step is to display content of the message and the receiver state list on a terminal linked with each other.

21. A message management method for managing messages transmitted from a plurality of terminals, comprising the steps of:

preparing a receiver state list indicating states

of a plurality of receivers of message whose destinations are the plurality of receivers, and

managing information of the receiver state list.

22. The message management method according to claim 21, wherein

the receiver state list includes receivers names and completion information that receiver confirms the message, or that business related to the message is completed.

23. A computer readable storage medium for storing a program, the program comprising the steps of:

displaying a receiver state list indicating states of a plurality of receivers of message whose designations are the plurality of receivers and content of the message on a terminal, linked with each other.

24. A computer readable storage medium for storing a program, the program comprising the steps of:

displaying a receiver state list which includes receivers' names of message and completion information indicating that content of the message is confirmed, or that business related to the message is completed,

on a terminal.

25. A computer readable storage medium for storing a program, the program comprising the steps of:

preparing a receiver state list indicating states of a plurality of receivers of message whose destinations are the plurality of receivers; and

managing information of the receiver state list.

26. The storage medium according to claim 25, wherein

the receiver state list includes receivers' names and completion information indicating that content of the message is confirmed, or that business related to the message is completed.

27. The storage medium according to claim 26, the program comprises a step of:

returning open information about all receivers of the message from an opened state to a not-opened state when content of the transmitted message is amended by a sender, wherein

the receiver state list includes the open information indicating whether or not the receiver open the message.

Abstract of the Disclosure

In a receiver state list, receivers' names of message, the titles of the message, completion information indicating whether or not receivers of the message confirm content of the message, or whether or not the business related to the message is completed, and comments which the receivers prepare for the message are displayed. From the receiver state list, a sender and all receivers of the message can obtain the states of all the receivers, for example, whether or not each receiver confirms the content of the message or whether or not the business related to the message is completed.

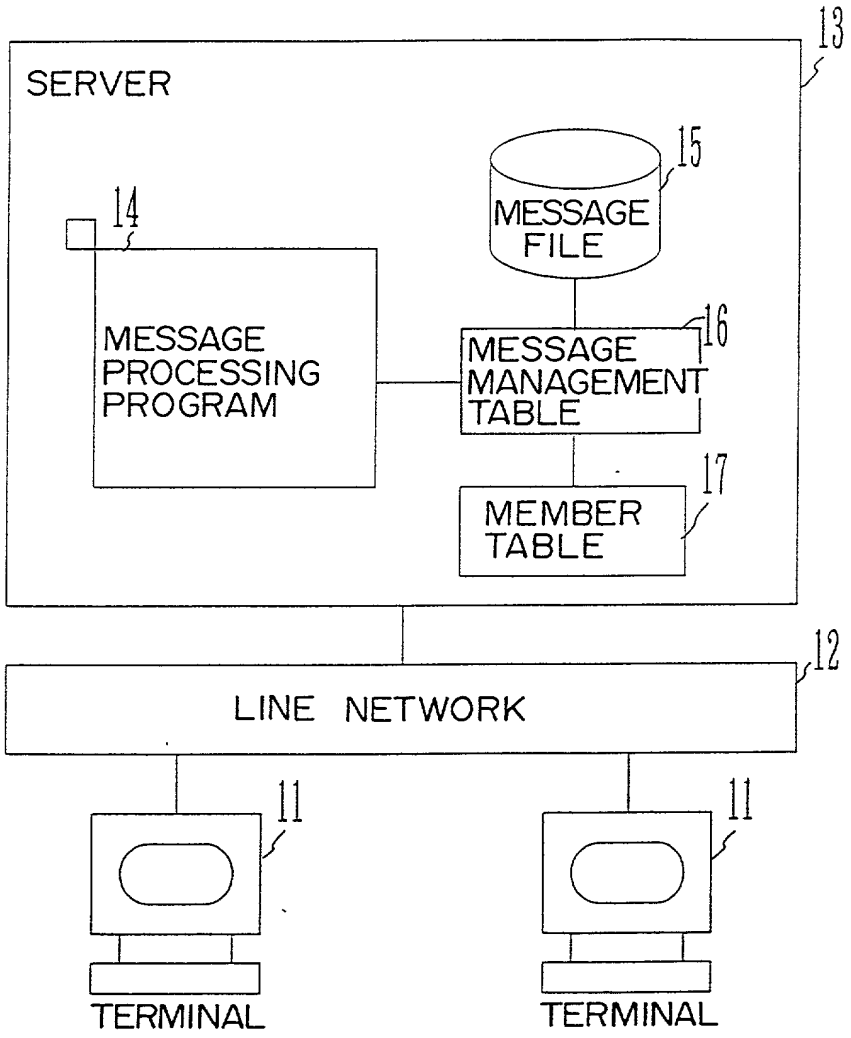
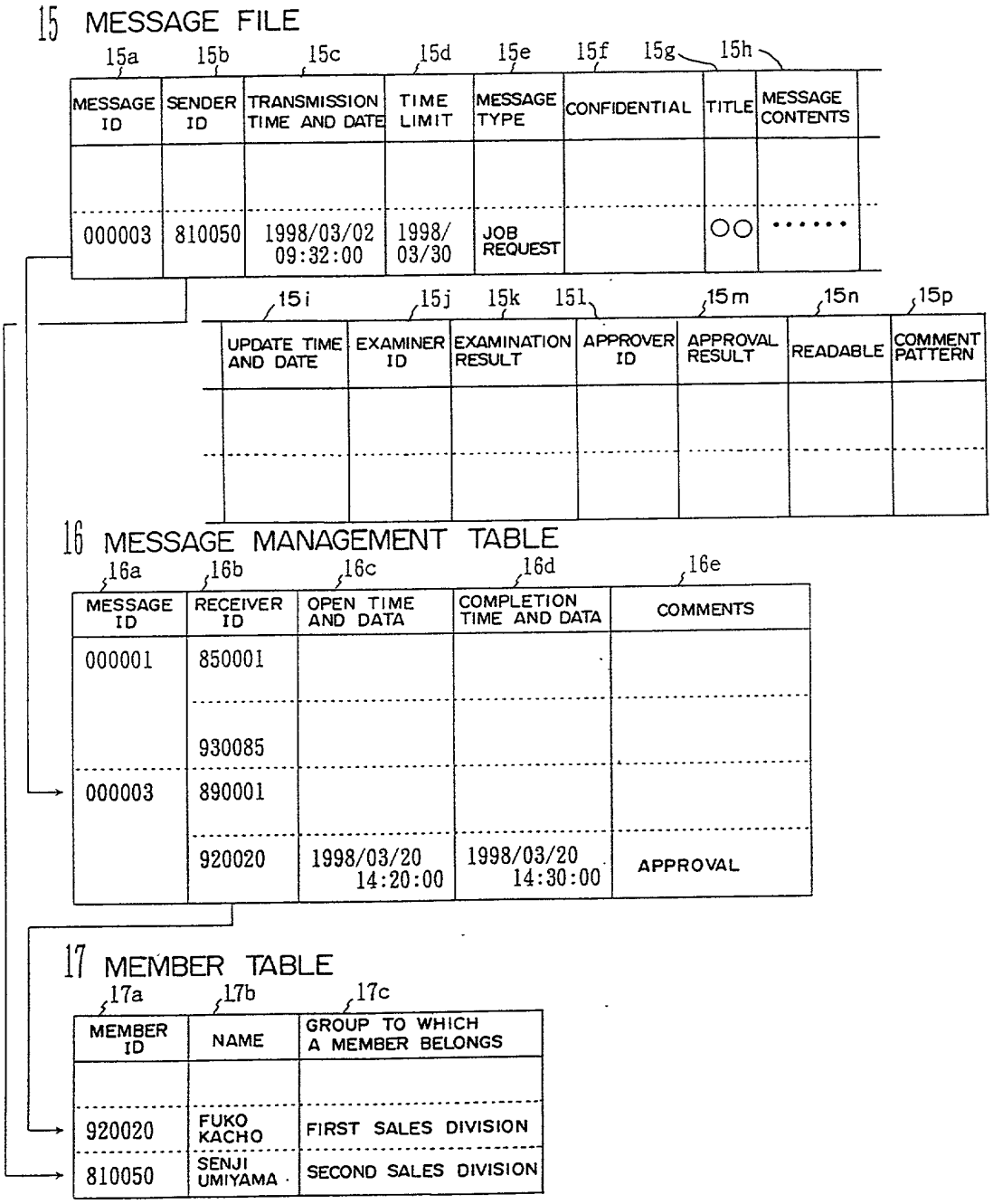

13
SERVER
15
MESSAGE FILE
14
MESSAGE PROCESSING PROGRAM
16
MESSAGE MANAGEMENT TABLE
17
MEMBER TABLE
12
LINE NETWORK
11
11
TERMINAL
TERMINAL

FIG. 1


15 MESSAGE FILE
15a
15b
15c
15d
15e
15f
15g
15h
MESSAGE ID
SENDER ID
TRANSMISSION TIME AND DATE
TIME LIMIT
MESSAGE TYPE
CONFIDENTIAL
TITLE
MESSAGE CONTENTS
000003
810050
1998/03/02 09:32:00
1998/ 03/30
JOB REQUEST
○○
15i
15j
15k
15l
15m
15n
15p
UPDATE TIME AND DATE
EXAMINER ID
EXAMINATION RESULT
APPROVER ID
APPROVAL RESULT
READABLE
COMMENT PATTERN
16 MESSAGE MANAGEMENT TABLE
16a
16b
16c
16d
16e
MESSAGE ID
RECEIVER ID
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COMPLETION TIME AND DATA
COMMENTS
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850001
930085
000003
890001
920020
1998/03/20 14:20:00
1998/03/20 14:30:00
APPROVAL
17 MEMBER TABLE
17a
17b
17c
MEMBER ID
NAME
GROUP TO WHICH A MEMBER BELONGS
920020
FUKO KACHO
FIRST SALES DIVISION
810050
SENJI UMIYAMA
SECOND SALES DIVISION

FIG. 2

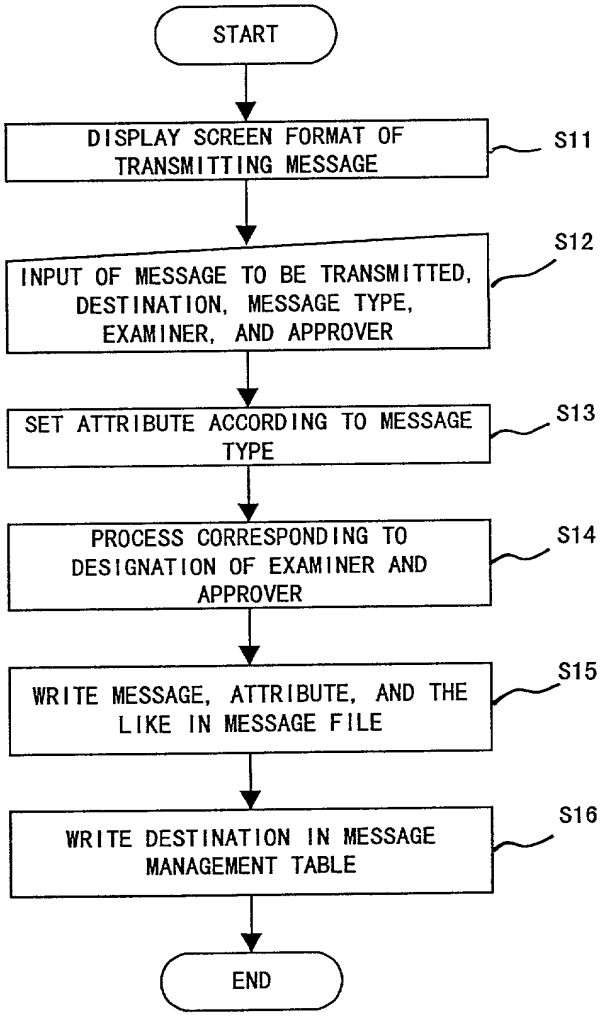

START
DISPLAY SCREEN FORMAT OF TRANSMITTING MESSAGE
S11
INPUT OF MESSAGE TO BE TRANSMITTED, DESTINATION, MESSAGE TYPE, EXAMINER, AND APPROVER
S12
SET ATTRIBUTE ACCORDING TO MESSAGE TYPE
S13
PROCESS CORRESPONDING TO DESIGNATION OF EXAMINER AND APPROVER
S14
WRITE MESSAGE, ATTRIBUTE, AND THE LIKE IN MESSAGE FILE
S15
WRITE DESTINATION IN MESSAGE MANAGEMENT TABLE
S16
END

FIG. 3

MESSAGE TRANSMISSION

21 ENTER CLEAR 22

DESTINATION	
MESSAGE TYPE	JOB REQUEST
TRANSMISSION DATA	1998/03/20 09:32:00
TITLE	ABOUT・・・
TEXT	・・・・・・・・
SENDER'S NAME	SENJI UMIYAMA
ATTRIBUTE	□ INPORTANT □ URGENT ■ COMMENTS REQUIRE □ CONFIDENTIAL ■ WITH TIME LIMIT (1998 / 04 / 15)
DELETION METHOD	・・・・
EXAMINATION AND APPROVAL	■ WITH EXAMINATION AND APPROVAL EXAMINER : TARA SUKIYA APPROVER : TAKUICHI HASHIYAMA

FIG. 4

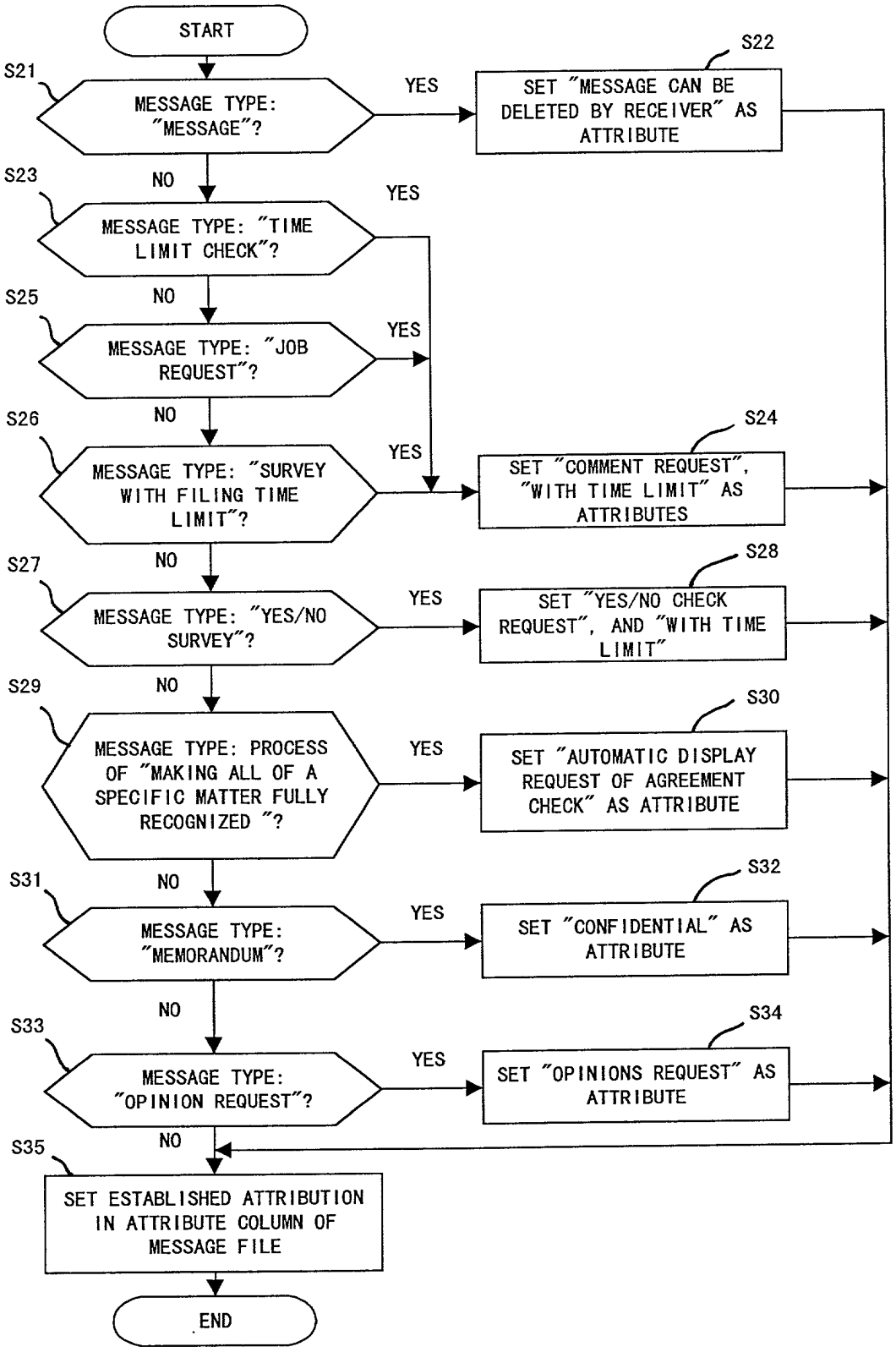

START
S21
MESSAGE TYPE: "MESSAGE"?
YES
S22
SET "MESSAGE CAN BE DELETED BY RECEIVER" AS ATTRIBUTE
NO
S23
MESSAGE TYPE: "TIME LIMIT CHECK"?
YES
NO
S25
MESSAGE TYPE: "JOB REQUEST"?
YES
NO
S26
MESSAGE TYPE: "SURVEY WITH FILING TIME LIMIT"?
YES
S24
SET "COMMENT REQUEST", "WITH TIME LIMIT" AS ATTRIBUTES
NO
S27
MESSAGE TYPE: "YES/NO SURVEY"?
YES
S28
SET "YES/NO CHECK REQUEST", AND "WITH TIME LIMIT"
NO
S29
MESSAGE TYPE: PROCESS OF "MAKING ALL OF A SPECIFIC MATTER FULLY RECOGNIZED "?
YES
S30
SET "AUTOMATIC DISPLAY REQUEST OF AGREEMENT CHECK" AS ATTRIBUTE
NO
S31
MESSAGE TYPE: "MEMORANDUM"?
YES
S32
SET "CONFIDENTIAL" AS ATTRIBUTE
NO
S33
MESSAGE TYPE: "OPINION REQUEST"?
YES
S34
SET "OPINIONS REQUEST" AS ATTRIBUTE
NO
S35
SET ESTABLISHED ATTRIBUTION IN ATTRIBUTE COLUMN OF MESSAGE FILE
END

FIG. 5

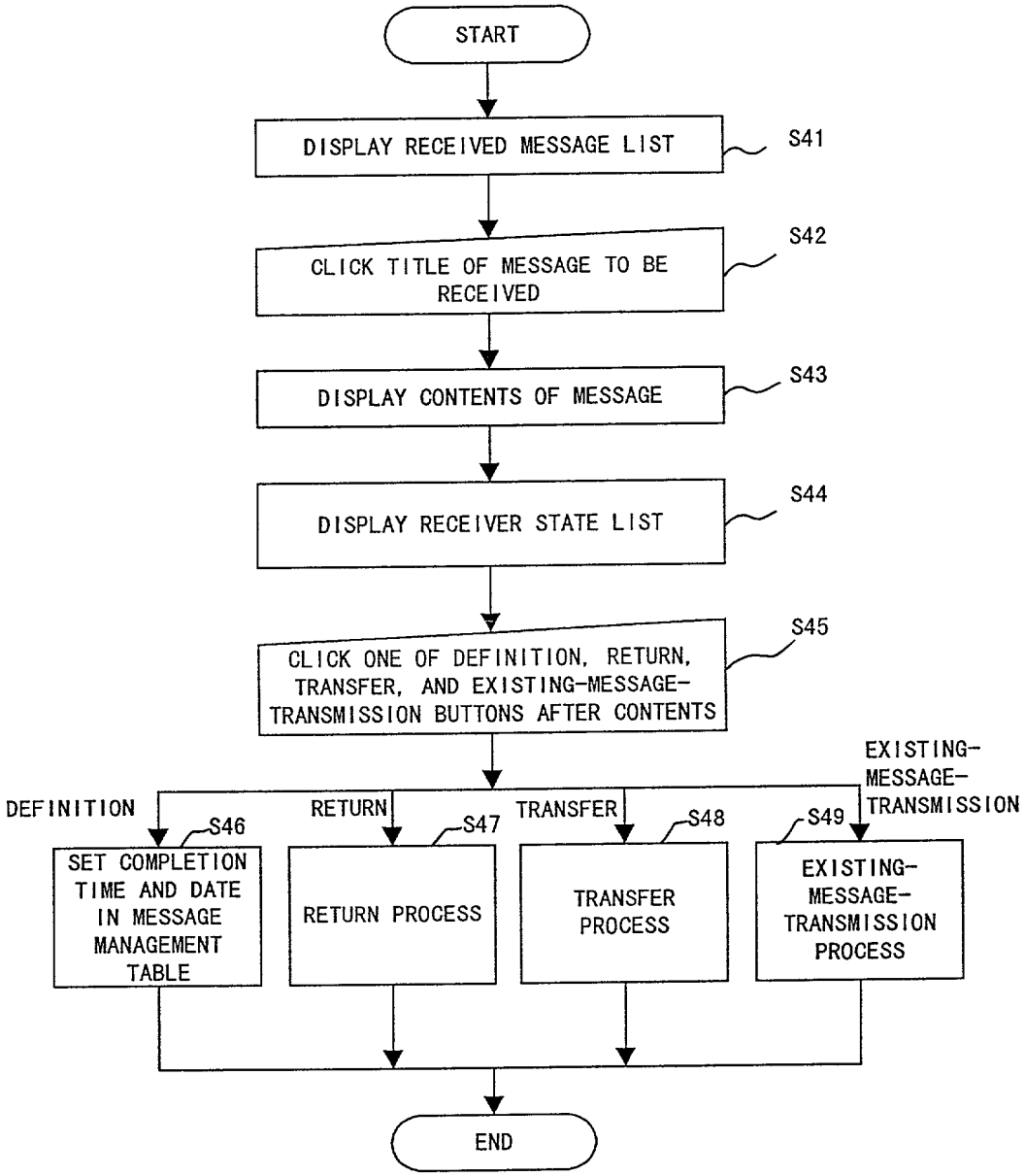
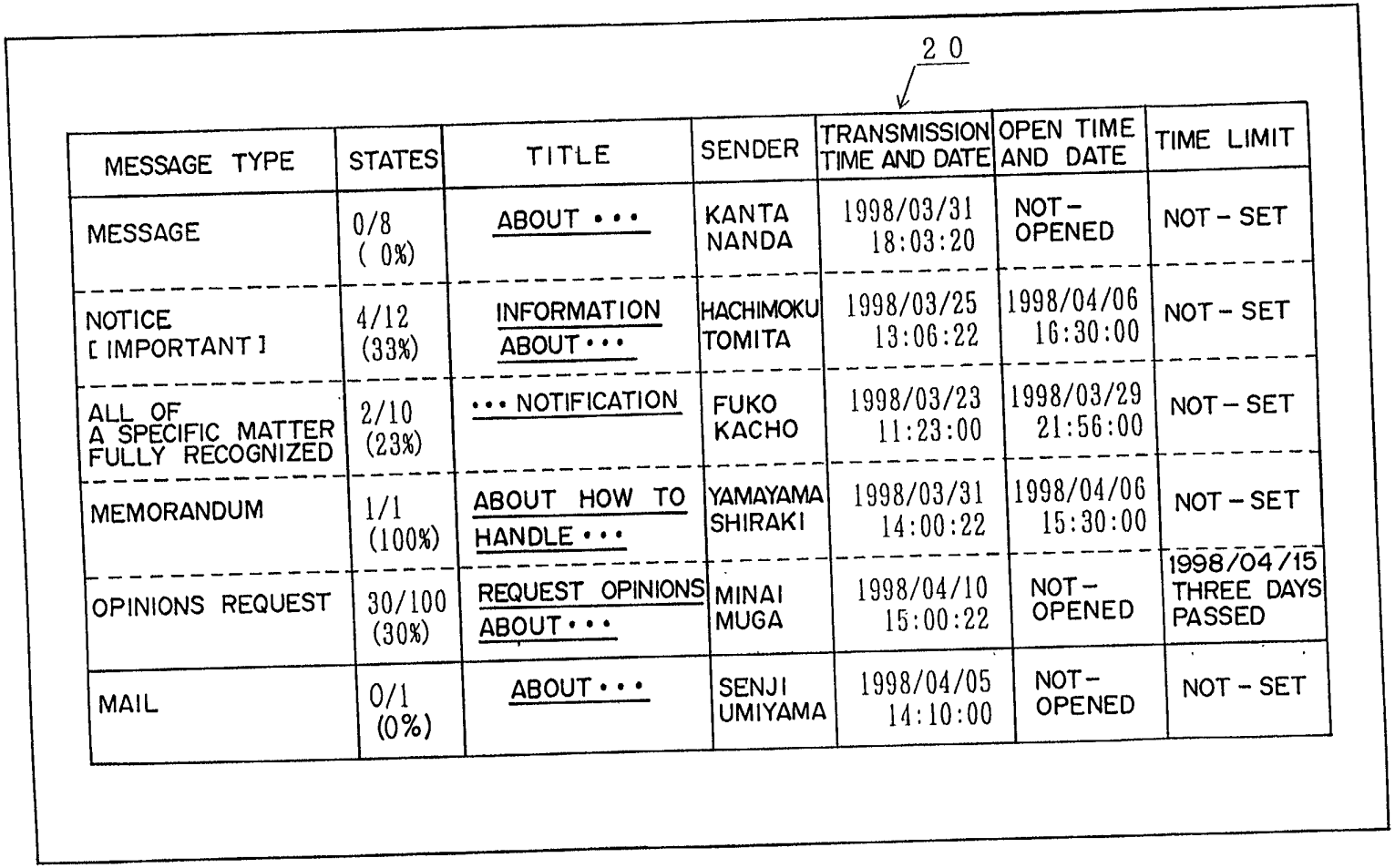

START
DISPLAY RECEIVED MESSAGE LIST
S41
CLICK TITLE OF MESSAGE TO BE RECEIVED
S42
DISPLAY CONTENTS OF MESSAGE
S43
DISPLAY RECEIVER STATE LIST
S44
CLICK ONE OF DEFINITION, RETURN, TRANSFER, AND EXISTING-MESSAGE-TRANSMISSION BUTTONS AFTER CONTENTS
S45
DEFINITION
RETURN
TRANSFER
EXISTING-MESSAGE-TRANSMISSION
S46
S47
S48
S49
SET COMPLETION TIME AND DATE IN MESSAGE MANAGEMENT TABLE
RETURN PROCESS
TRANSFER PROCESS
EXISTING-MESSAGE-TRANSMISSION PROCESS
END

FIG. 6



MESSAGE TYPE	STATES	TITLE	SENDER	TRANSMISSION TIME AND DATE	OPEN TIME AND DATE	TIME LIMIT
MESSAGE	0/8 (0%)	ABOUT •••	KANTA NANDA	1998/03/31 18:03:20	NOT-OPENED	NOT-SET
NOTICE [IMPORTANT]	4/12 (33%)	INFORMATION ABOUT•••	HACHIMOKU TOMITA	1998/03/25 13:06:22	1998/04/06 16:30:00	NOT-SET
ALL OF A SPECIFIC MATTER FULLY RECOGNIZED	2/10 (23%)	••• NOTIFICATION	FUKO KACHO	1998/03/23 11:23:00	1998/03/29 21:56:00	NOT-SET
MEMORANDUM	1/1 (100%)	ABOUT HOW TO HANDLE •••	YAMAYAMA SHIRAKI	1998/03/31 14:00:22	1998/04/06 15:30:00	NOT-SET
OPINIONS REQUEST	30/100 (30%)	REQUEST OPINIONS ABOUT•••	MINAI MUGA	1998/04/10 15:00:22	NOT-OPENED	1998/04/15 THREE DAYS PASSED
MAIL	0/1 (0%)	ABOUT •••	SENJI UMIYAMA	1998/04/05 14:10:00	NOT-OPENED	NOT-SET

FIG. 7

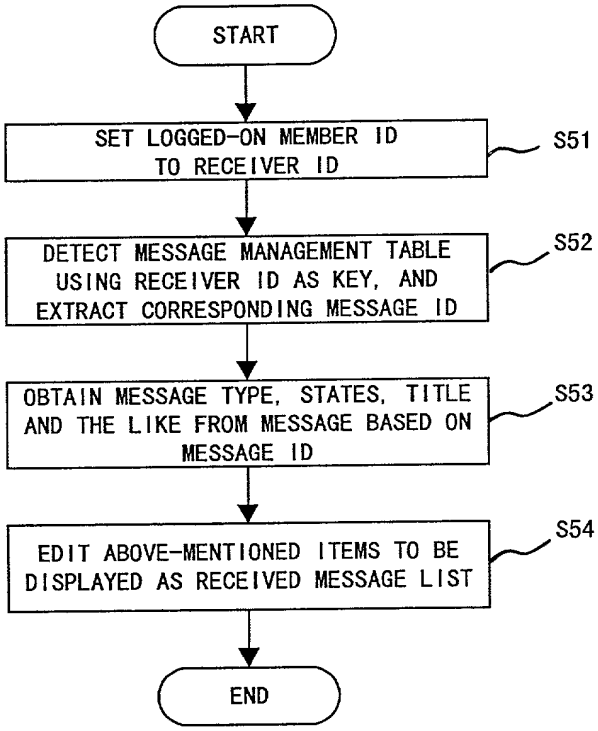

START
SET LOGGED-ON MEMBER ID TO RECEIVER ID
S51
DETECT MESSAGE MANAGEMENT TABLE USING RECEIVER ID AS KEY, AND EXTRACT CORRESPONDING MESSAGE ID
S52
OBTAIN MESSAGE TYPE, STATES, TITLE AND THE LIKE FROM MESSAGE BASED ON MESSAGE ID
S53
EDIT ABOVE-MENTIONED ITEMS TO BE DISPLAYED AS RECEIVED MESSAGE LIST
S54
END

FIG. 8

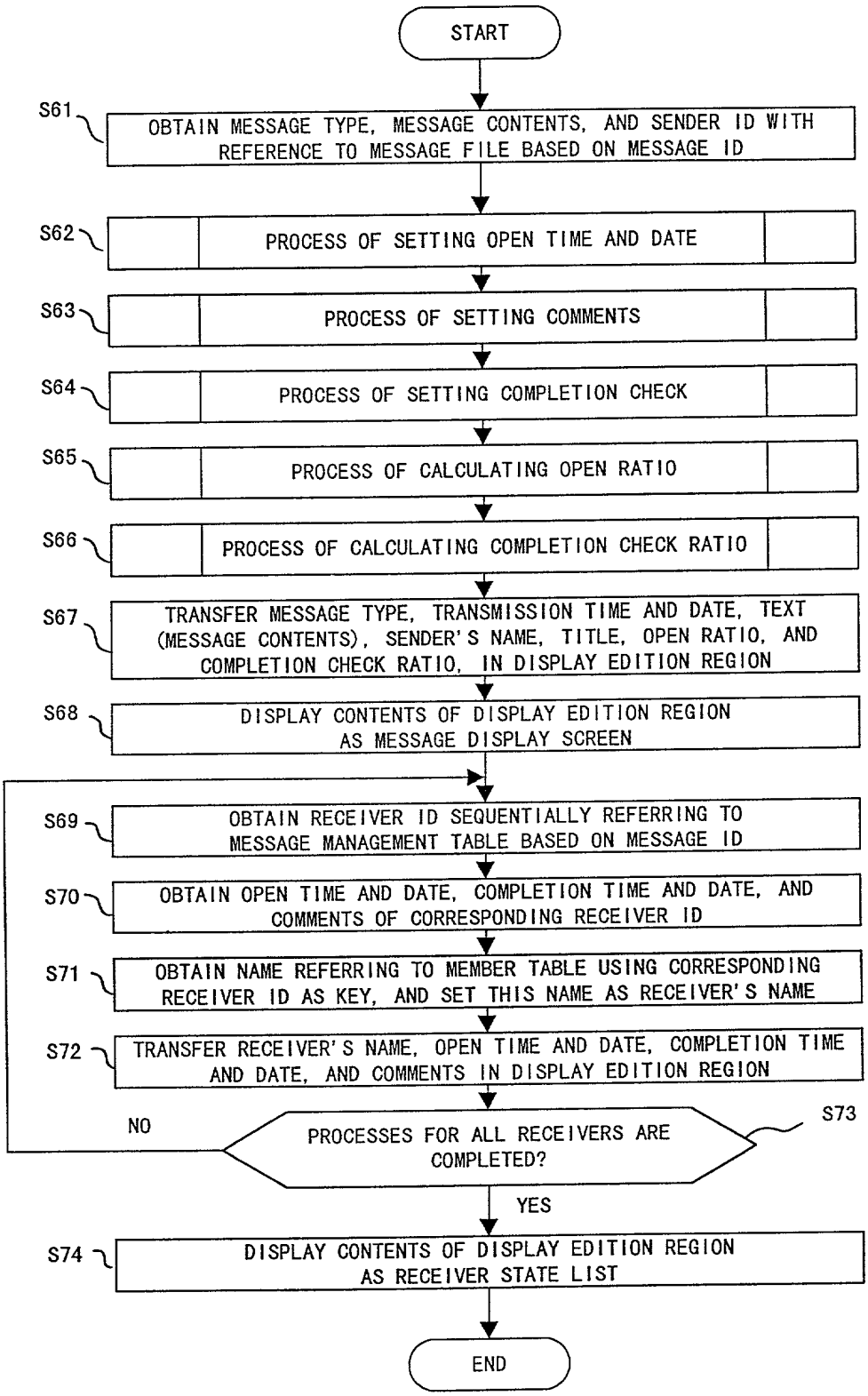

START
S61
OBTAIN MESSAGE TYPE, MESSAGE CONTENTS, AND SENDER ID WITH REFERENCE TO MESSAGE FILE BASED ON MESSAGE ID
S62
PROCESS OF SETTING OPEN TIME AND DATE
S63
PROCESS OF SETTING COMMENTS
S64
PROCESS OF SETTING COMPLETION CHECK
S65
PROCESS OF CALCULATING OPEN RATIO
S66
PROCESS OF CALCULATING COMPLETION CHECK RATIO
S67
TRANSFER MESSAGE TYPE, TRANSMISSION TIME AND DATE, TEXT (MESSAGE CONTENTS), SENDER'S NAME, TITLE, OPEN RATIO, AND COMPLETION CHECK RATIO, IN DISPLAY EDITION REGION
S68
DISPLAY CONTENTS OF DISPLAY EDITION REGION AS MESSAGE DISPLAY SCREEN
S69
OBTAIN RECEIVER ID SEQUENTIALLY REFERRING TO MESSAGE MANAGEMENT TABLE BASED ON MESSAGE ID
S70
OBTAIN OPEN TIME AND DATE, COMPLETION TIME AND DATE, AND COMMENTS OF CORRESPONDING RECEIVER ID
S71
OBTAIN NAME REFERRING TO MEMBER TABLE USING CORRESPONDING RECEIVER ID AS KEY, AND SET THIS NAME AS RECEIVER'S NAME
S72
TRANSFER RECEIVER'S NAME, OPEN TIME AND DATE, COMPLETION TIME AND DATE, AND COMMENTS IN DISPLAY EDITION REGION
S73
NO
PROCESSES FOR ALL RECEIVERS ARE COMPLETED?
YES
S74
DISPLAY CONTENTS OF DISPLAY EDITION REGION AS RECEIVER STATE LIST
END

FIG. 9

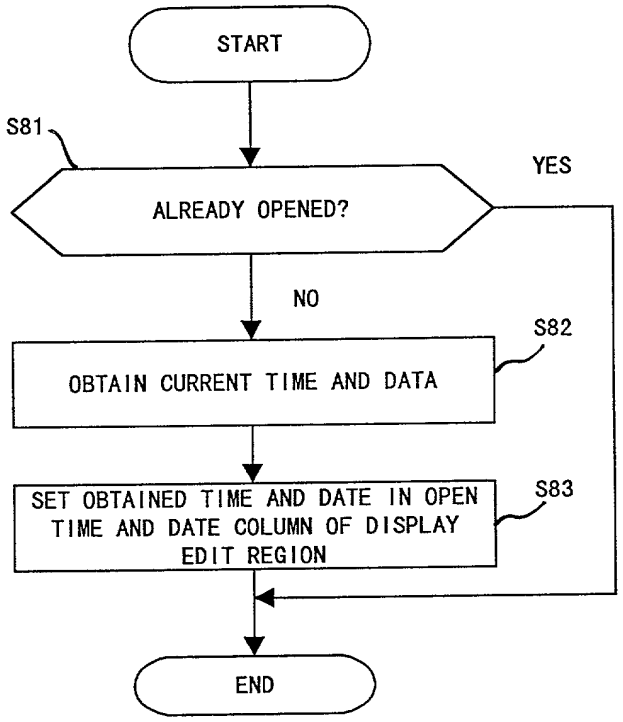

START
S81
ALREADY OPENED?
YES
NO
S82
OBTAIN CURRENT TIME AND DATA
S83
SET OBTAINED TIME AND DATE IN OPEN TIME AND DATE COLUMN OF DISPLAY EDIT REGION
END

FIG. 10

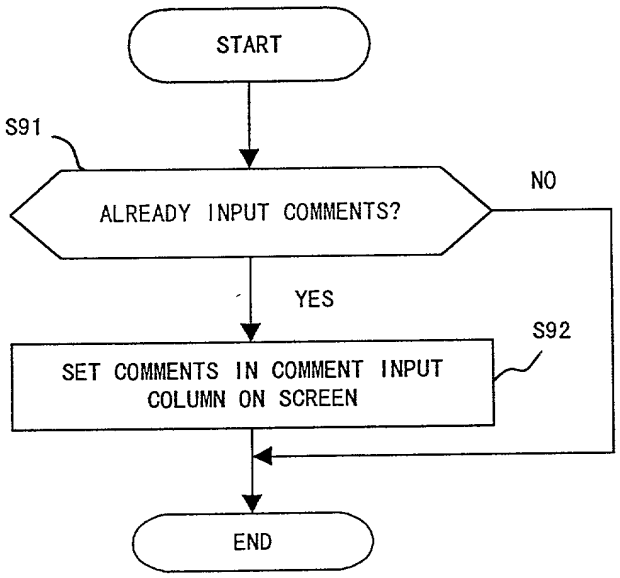

START
S91
ALREADY INPUT COMMENTS?
NO
YES
S92
SET COMMENTS IN COMMENT INPUT COLUMN ON SCREEN
END

FIG. 11

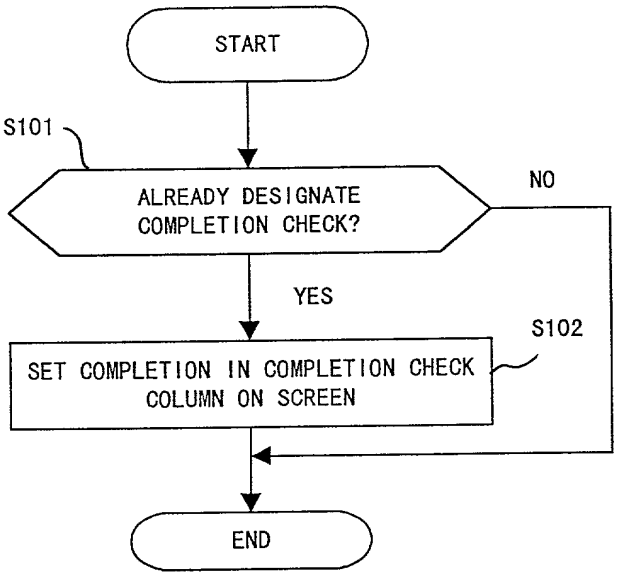

START
S101
ALREADY DESIGNATE COMPLETION CHECK?
NO
YES
S102
SET COMPLETION IN COMPLETION CHECK COLUMN ON SCREEN
END

FIG. 12

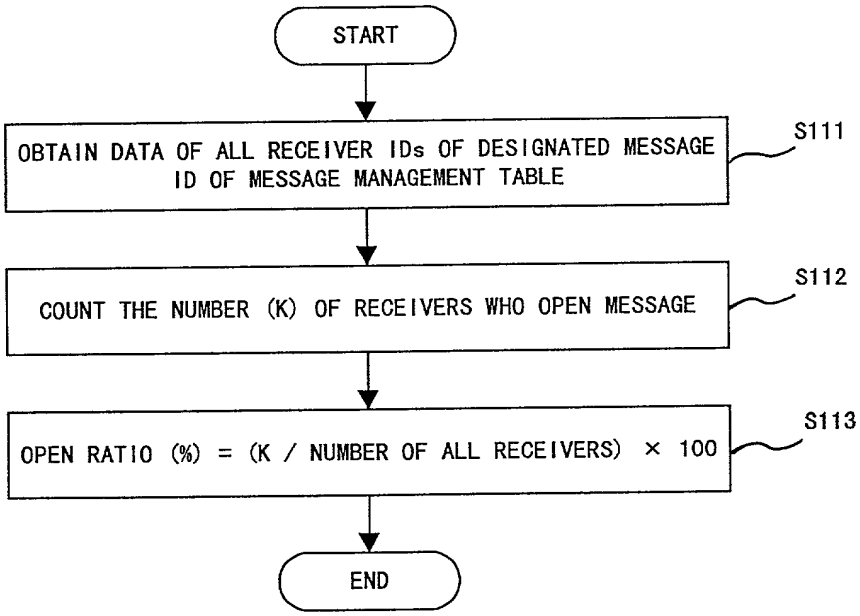

START
OBTAIN DATA OF ALL RECEIVER IDs OF DESIGNATED MESSAGE ID OF MESSAGE MANAGEMENT TABLE
S111
COUNT THE NUMBER (K) OF RECEIVERS WHO OPEN MESSAGE
S112
OPEN RATIO (%) = (K / NUMBER OF ALL RECEIVERS) × 100
S113
END

FIG. 13

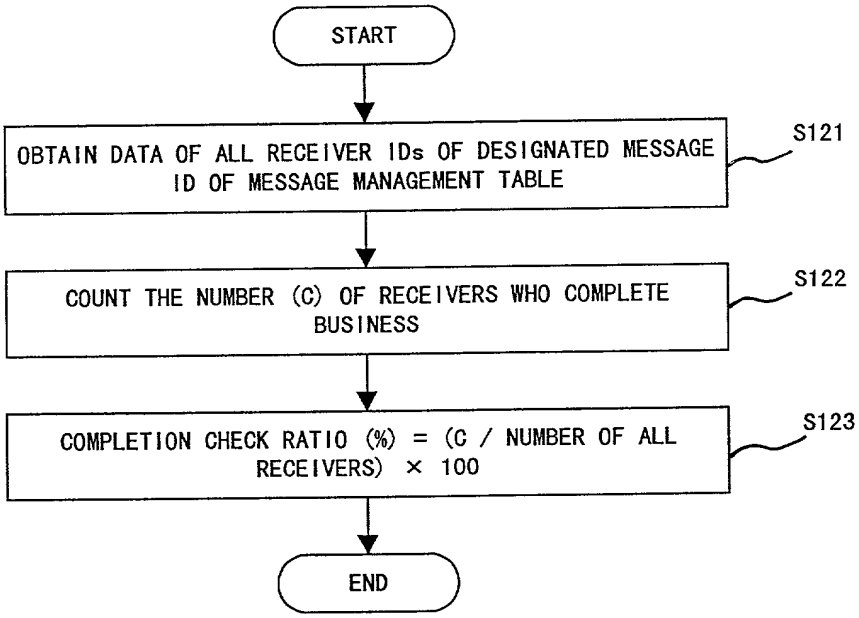

START
OBTAIN DATA OF ALL RECEIVER IDs OF DESIGNATED MESSAGE ID OF MESSAGE MANAGEMENT TABLE
S121
COUNT THE NUMBER (C) OF RECEIVERS WHO COMPLETE BUSINESS
S122
COMPLETION CHECK RATIO (%) = (C / NUMBER OF ALL RECEIVERS) × 100
S123
END

FIG. 14

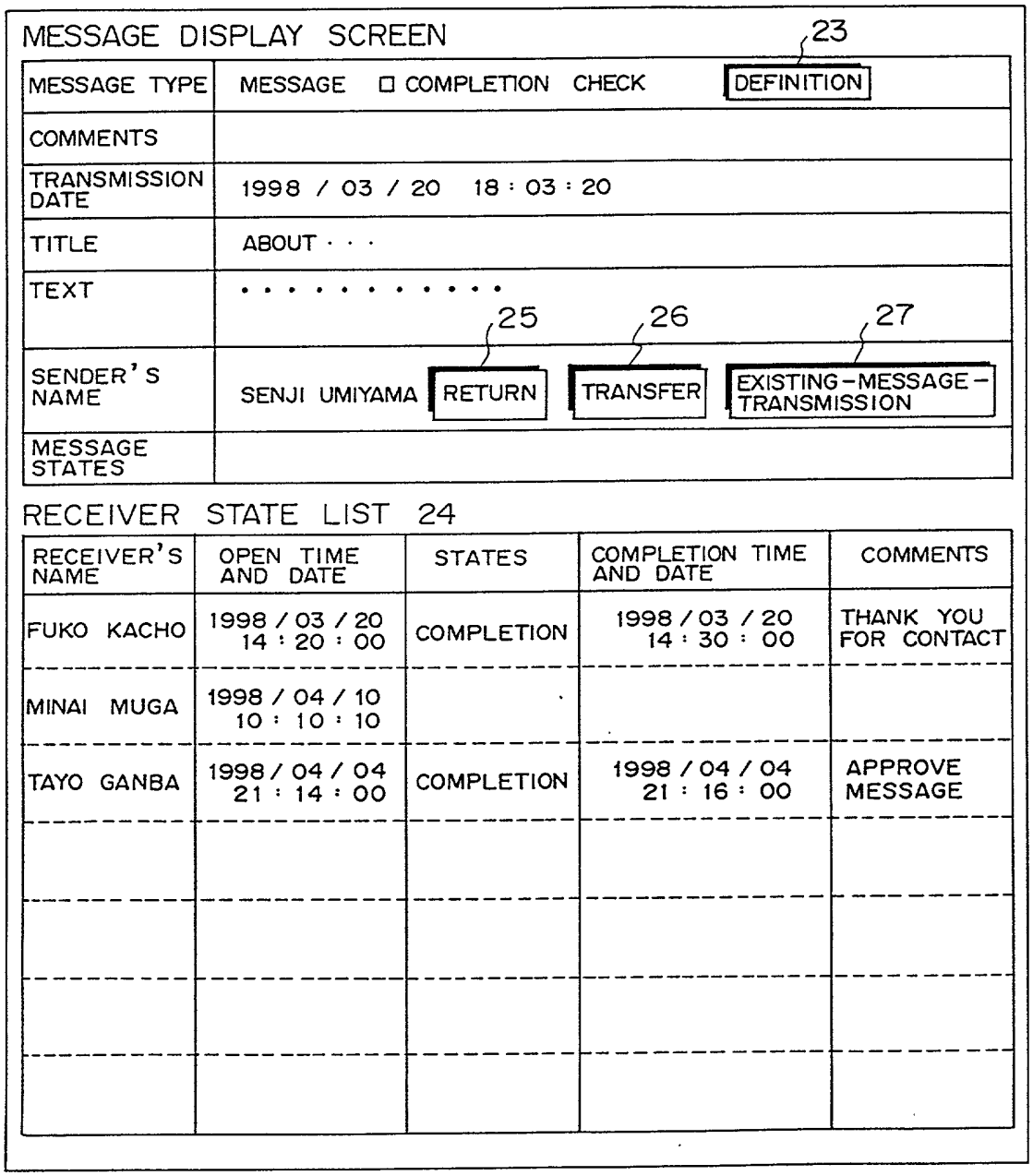

MESSAGE DISPLAY SCREEN
23
MESSAGE TYPE
MESSAGE ☐ COMPLETION CHECK
DEFINITION
COMMENTS
TRANSMISSION DATE
1998 / 03 / 20 18 : 03 : 20
TITLE
ABOUT · · ·
TEXT
· · · · · · · · · · ·
25
26
27
SENDER'S NAME
SENJI UMIYAMA
RETURN
TRANSFER
EXISTING-MESSAGE-TRANSMISSION
MESSAGE STATES
RECEIVER STATE LIST 24
RECEIVER'S NAME
OPEN TIME AND DATE
STATES
COMPLETION TIME AND DATE
COMMENTS
FUKO KACHO
1998 / 03 / 20 14 : 20 : 00
COMPLETION
1998 / 03 / 20 14 : 30 : 00
THANK YOU FOR CONTACT
MINAI MUGA
1998 / 04 / 10 10 : 10 : 10
TAYO GANBA
1998 / 04 / 04 21 : 14 : 00
COMPLETION
1998 / 04 / 04 21 : 16 : 00
APPROVE MESSAGE

FIG. 15

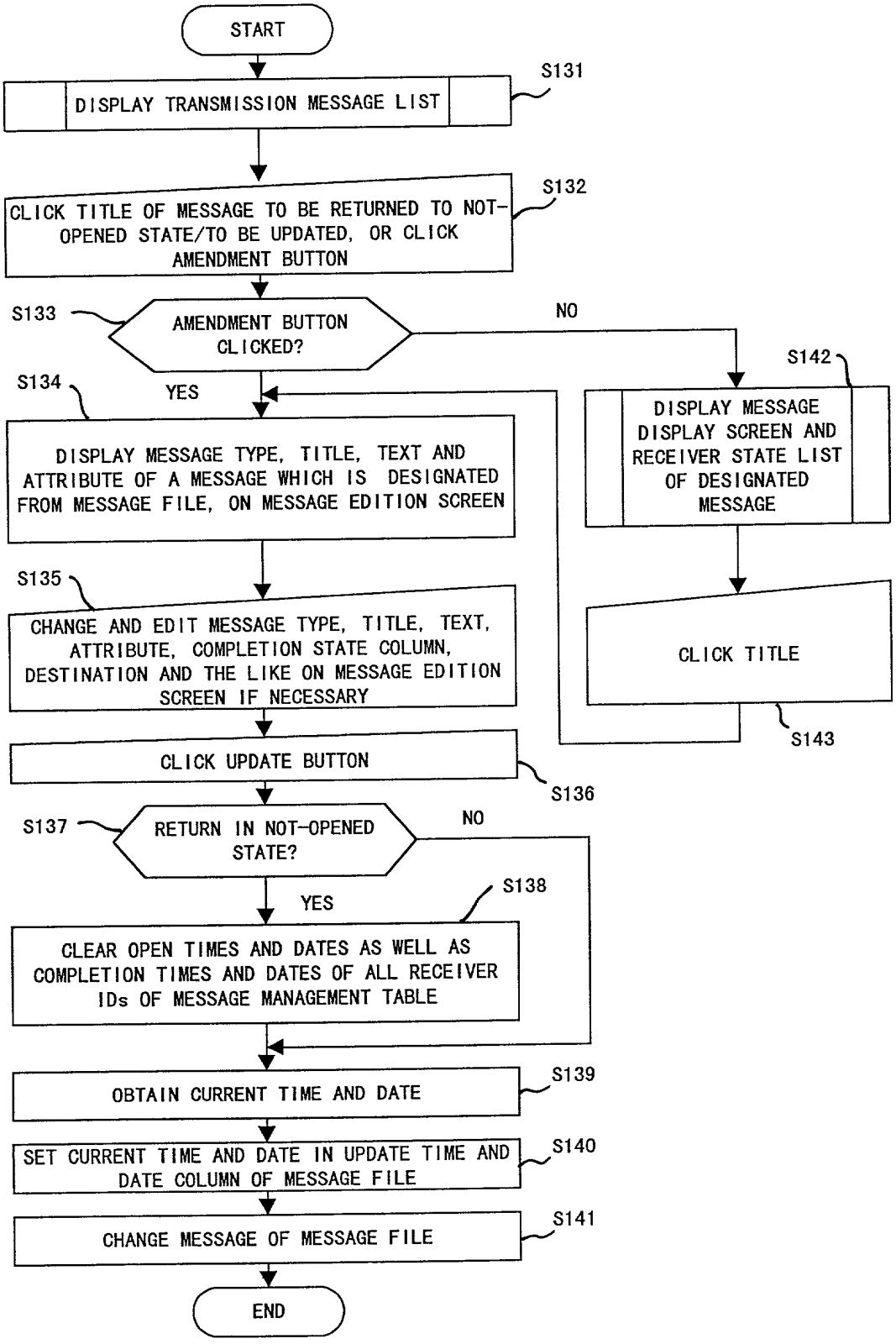

START
S131
DISPLAY TRANSMISSION MESSAGE LIST
S132
CLICK TITLE OF MESSAGE TO BE RETURNED TO NOT-OPENED STATE/TO BE UPDATED, OR CLICK AMENDMENT BUTTON
S133
AMENDMENT BUTTON CLICKED?
NO
S142
DISPLAY MESSAGE DISPLAY SCREEN AND RECEIVER STATE LIST OF DESIGNATED MESSAGE
S134
YES
DISPLAY MESSAGE TYPE, TITLE, TEXT AND ATTRIBUTE OF A MESSAGE WHICH IS DESIGNATED FROM MESSAGE FILE, ON MESSAGE EDITION SCREEN
S135
CHANGE AND EDIT MESSAGE TYPE, TITLE, TEXT, ATTRIBUTE, COMPLETION STATE COLUMN, DESTINATION AND THE LIKE ON MESSAGE EDITION SCREEN IF NECESSARY
CLICK TITLE
S143
CLICK UPDATE BUTTON
S136
S137
RETURN IN NOT-OPENED STATE?
NO
YES
S138
CLEAR OPEN TIMES AND DATES AS WELL AS COMPLETION TIMES AND DATES OF ALL RECEIVER IDs OF MESSAGE MANAGEMENT TABLE
OBTAIN CURRENT TIME AND DATE
S139
SET CURRENT TIME AND DATE IN UPDATE TIME AND DATE COLUMN OF MESSAGE FILE
S140
CHANGE MESSAGE OF MESSAGE FILE
S141
END

FIG. 16

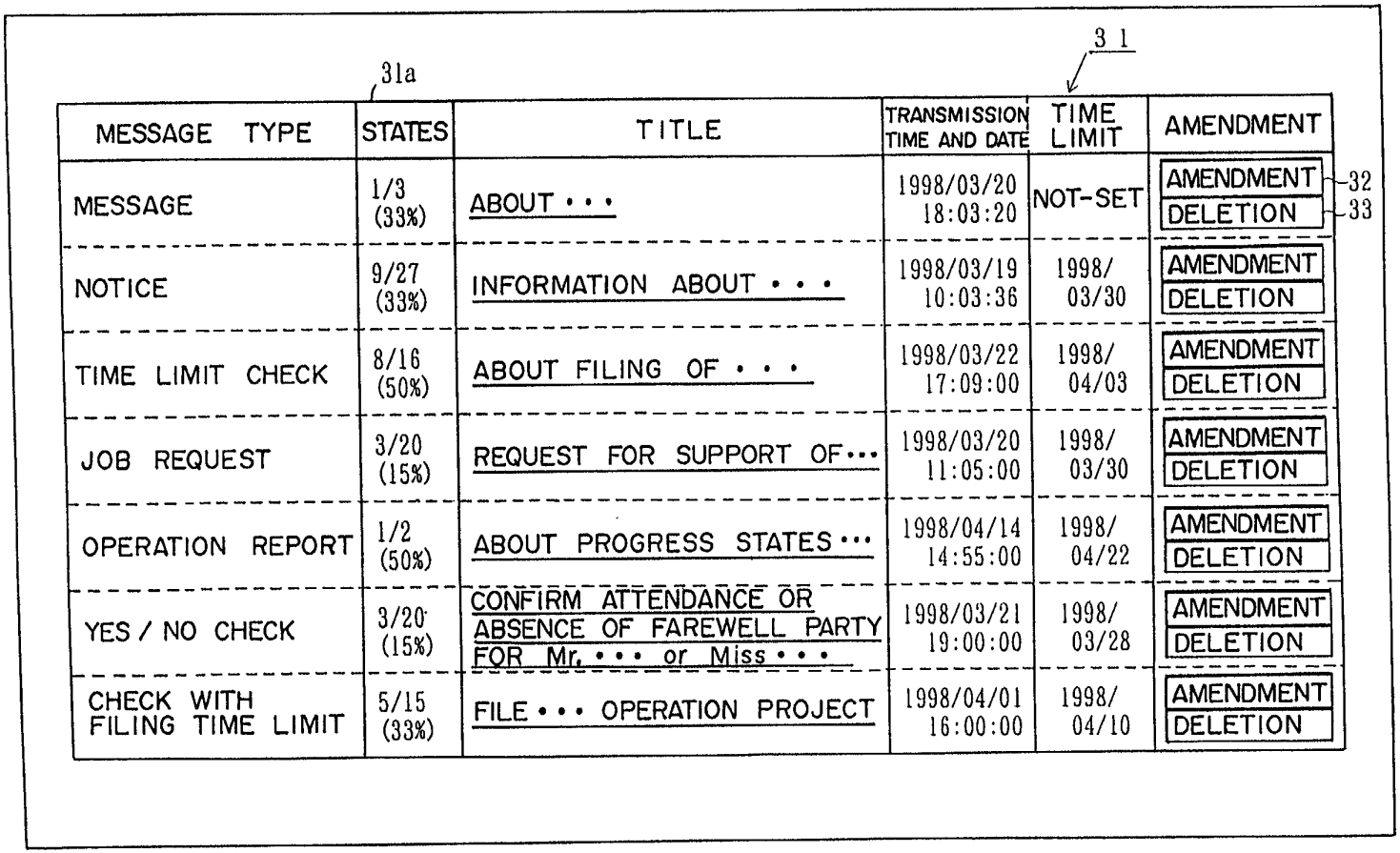


FIG. 17

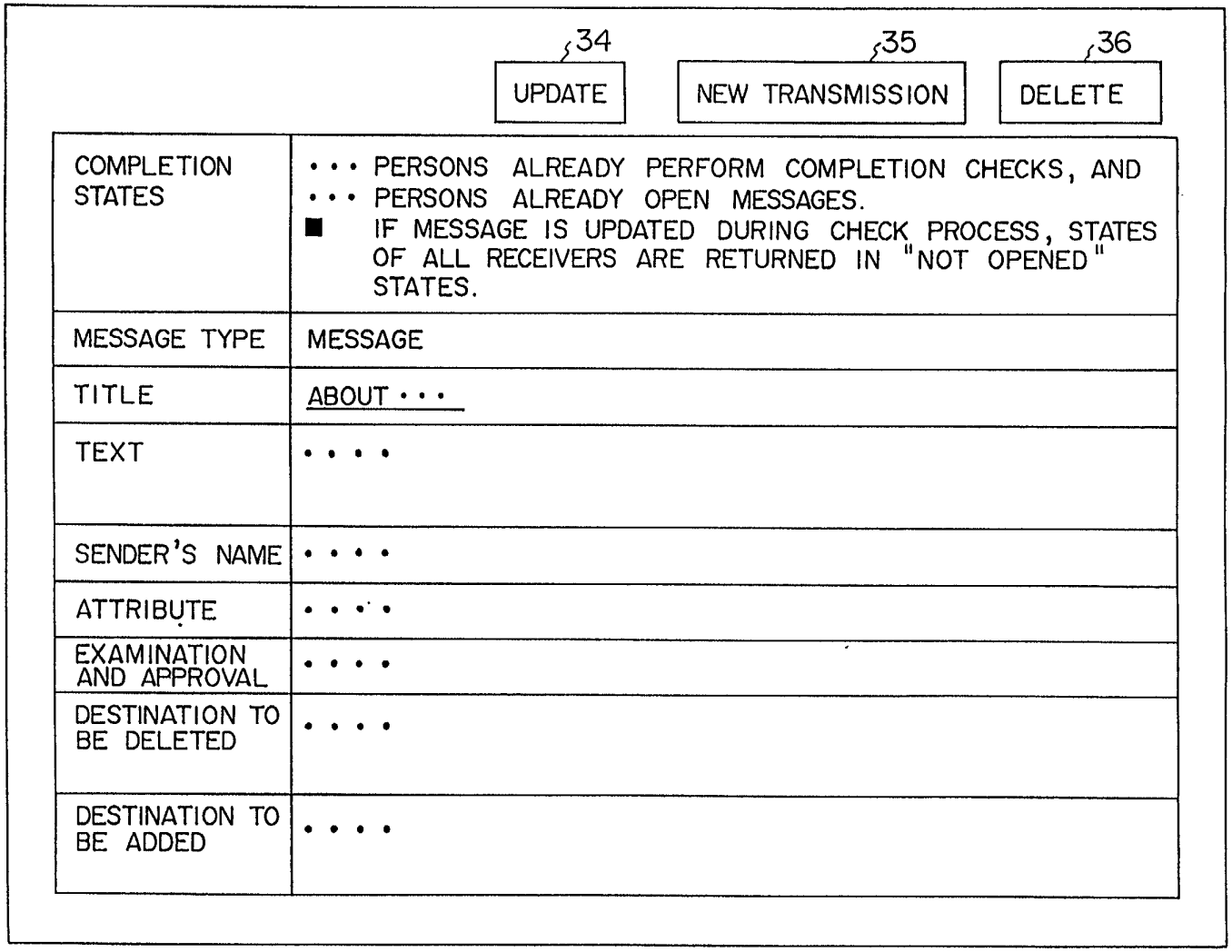

34
35
36
UPDATE
NEW TRANSMISSION
DELETE
COMPLETION STATES
• • • PERSONS ALREADY PERFORM COMPLETION CHECKS, AND
• • • PERSONS ALREADY OPEN MESSAGES.
■ IF MESSAGE IS UPDATED DURING CHECK PROCESS, STATES OF ALL RECEIVERS ARE RETURNED IN "NOT OPENED" STATES.
MESSAGE TYPE
MESSAGE
TITLE
ABOUT • • •
TEXT
• • • •
SENDER'S NAME
• • • •
ATTRIBUTE
• • • •
EXAMINATION AND APPROVAL
• • • •
DESTINATION TO BE DELETED
• • • •
DESTINATION TO BE ADDED
• • • •

FIG. 18

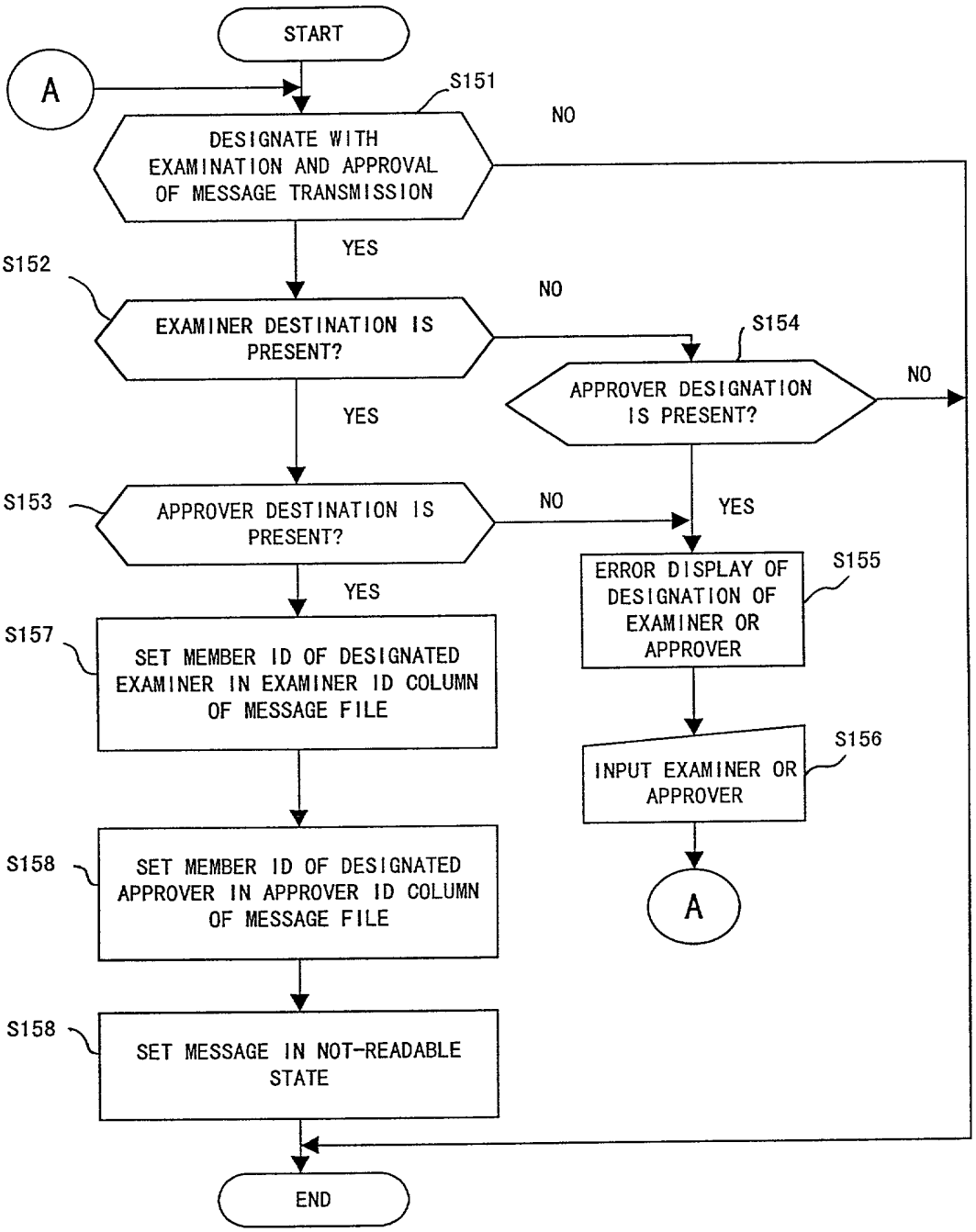

START
A
S151
DESIGNATE WITH EXAMINATION AND APPROVAL OF MESSAGE TRANSMISSION
NO
YES
S152
EXAMINER DESTINATION IS PRESENT?
NO
S154
APPROVER DESIGNATION IS PRESENT?
NO
YES
S153
APPROVER DESTINATION IS PRESENT?
NO
YES
YES
S155
ERROR DISPLAY OF DESIGNATION OF EXAMINER OR APPROVER
S156
INPUT EXAMINER OR APPROVER
A
S157
SET MEMBER ID OF DESIGNATED EXAMINER IN EXAMINER ID COLUMN OF MESSAGE FILE
S158
SET MEMBER ID OF DESIGNATED APPROVER IN APPROVER ID COLUMN OF MESSAGE FILE
S158
SET MESSAGE IN NOT-READABLE STATE
END

FIG. 19

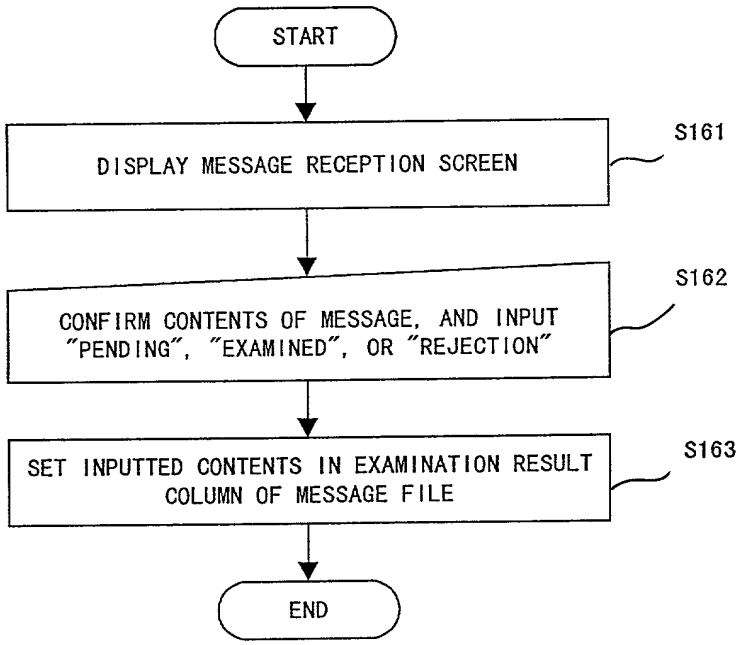

START
DISPLAY MESSAGE RECEPTION SCREEN
S161
CONFIRM CONTENTS OF MESSAGE, AND INPUT "PENDING", "EXAMINED", OR "REJECTION"
S162
SET INPUTTED CONTENTS IN EXAMINATION RESULT COLUMN OF MESSAGE FILE
S163
END

FIG. 20

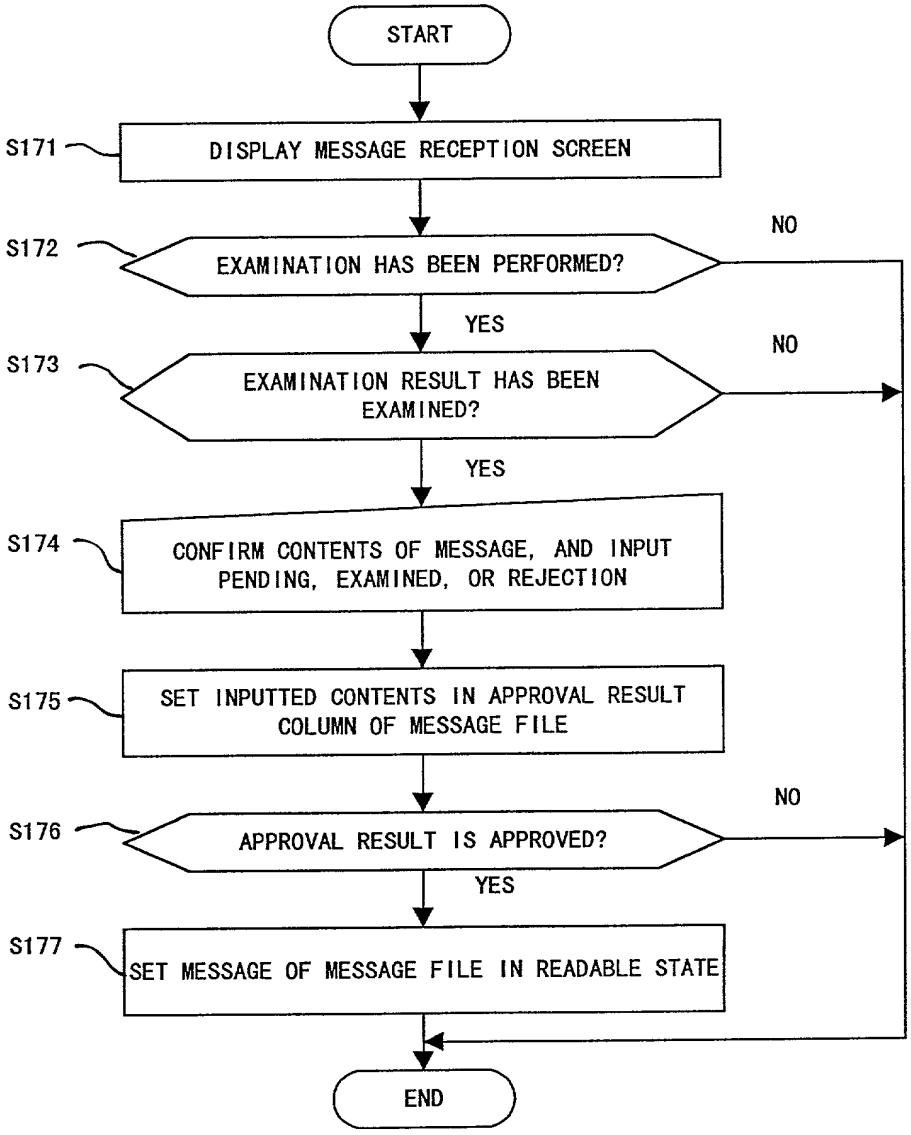

START
S171
DISPLAY MESSAGE RECEPTION SCREEN
S172
EXAMINATION HAS BEEN PERFORMED?
NO
YES
S173
EXAMINATION RESULT HAS BEEN EXAMINED?
NO
YES
S174
CONFIRM CONTENTS OF MESSAGE, AND INPUT PENDING, EXAMINED, OR REJECTION
S175
SET INPUTTED CONTENTS IN APPROVAL RESULT COLUMN OF MESSAGE FILE
S176
APPROVAL RESULT IS APPROVED?
NO
YES
S177
SET MESSAGE OF MESSAGE FILE IN READABLE STATE
END

FIG. 21

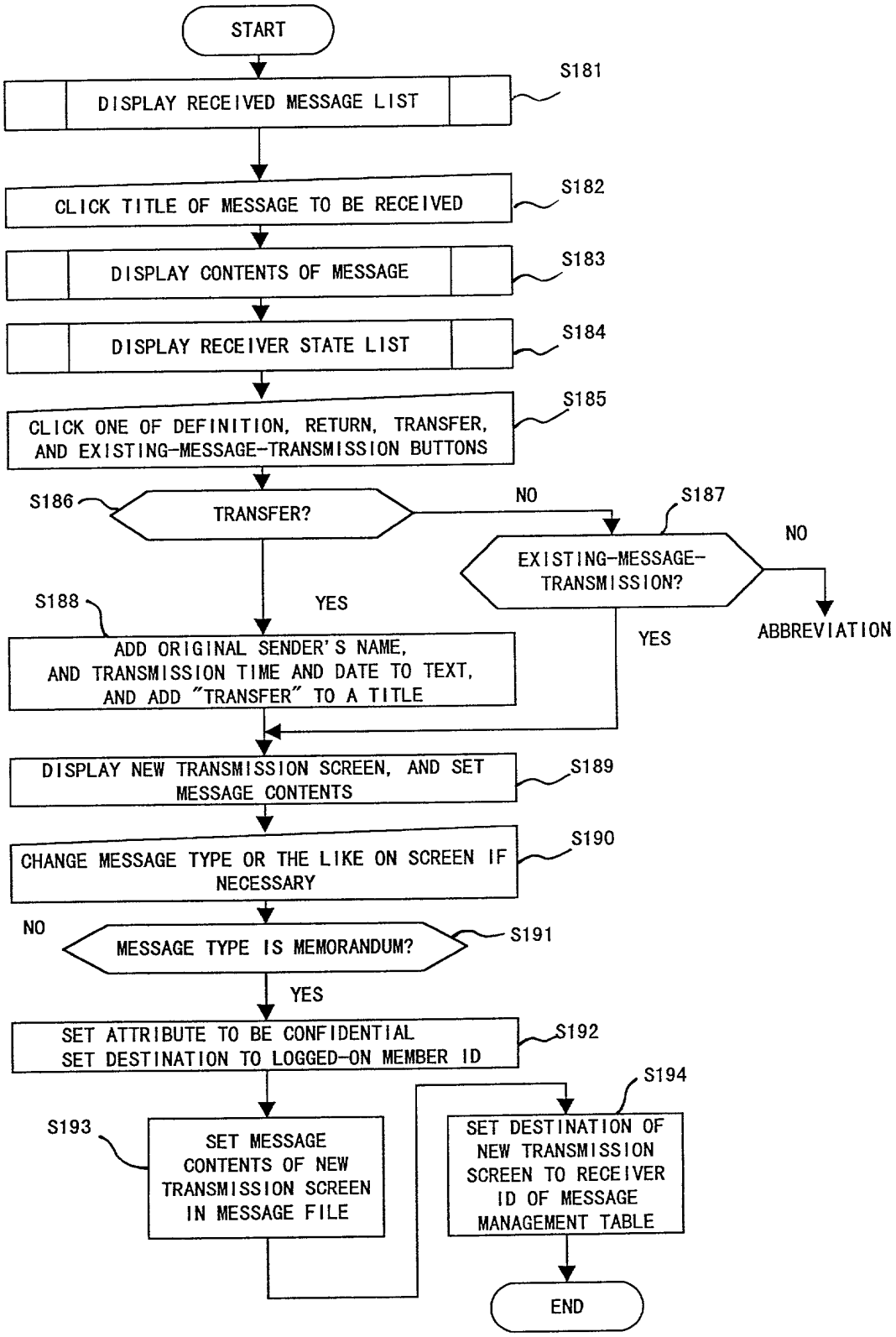

START
DISPLAY RECEIVED MESSAGE LIST
S181
CLICK TITLE OF MESSAGE TO BE RECEIVED
S182
DISPLAY CONTENTS OF MESSAGE
S183
DISPLAY RECEIVER STATE LIST
S184
CLICK ONE OF DEFINITION, RETURN, TRANSFER, AND EXISTING-MESSAGE-TRANSMISSION BUTTONS
S185
S186
TRANSFER?
NO
S187
EXISTING-MESSAGE-TRANSMISSION?
NO
ABBREVIATION
YES
S188
YES
ADD ORIGINAL SENDER'S NAME, AND TRANSMISSION TIME AND DATE TO TEXT, AND ADD "TRANSFER" TO A TITLE
DISPLAY NEW TRANSMISSION SCREEN, AND SET MESSAGE CONTENTS
S189
CHANGE MESSAGE TYPE OR THE LIKE ON SCREEN IF NECESSARY
S190
NO
MESSAGE TYPE IS MEMORANDUM?
S191
YES
SET ATTRIBUTE TO BE CONFIDENTIAL SET DESTINATION TO LOGGED-ON MEMBER ID
S192
S193
SET MESSAGE CONTENTS OF NEW TRANSMISSION SCREEN IN MESSAGE FILE
S194
SET DESTINATION OF NEW TRANSMISSION SCREEN TO RECEIVER ID OF MESSAGE MANAGEMENT TABLE
END

FIG. 22

ToDoList

MESSAGE TYPE	MEMORANDUM [CONFIDENTIAL] ☐ COMPLETION CHECK DEFINITION (23)
COMMENTS	
TRANSMISSION DATE	1998 / 04 / 11 11 : 24 : 20
TITLE	TRANSFER : ABOUT • • •
TEXT	ORIGINAL MESSAGE TRANSMISSION DATE : 1998/04/10 09:20:00 ORIGINAL MESSAGE SENDER : MINAI MUGA • • • • •
SENDER'S NAME	SENJI UMIYAMA RETURN (25) TRANSFER (26) EXISTING-MESSAGE-TRANSMISSION (27)
MESSAGE STATES	• • •

RECEIVER STATE LIST 22

RECEIVER'S NAME	OPEN TIME AND DATE	STATES	COMPLETION TIME AND DATE	COMMENTS
SENJI UMIYAMA	1998/04/17 15:20:00			

FIG. 23

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MESSAGE TYPE	COMMENT PATTERN	CONTENTS OF COMMENT PATTERN
JOB REQUEST	JOB APPROVAL	APPROVAL, REJECTION(REASON), PENDING(REASON), OTHERS( ), CONSULTATION REQUEST( )
CONFIRM ATTENDANCE OR ABSENCE	ANSWER, ATTENDANCE OR ABSENCE	ATTENDANCE, ABSENCE(REASON), PENDING(REASON), OTHERS( )
⋮		

FIG. 24

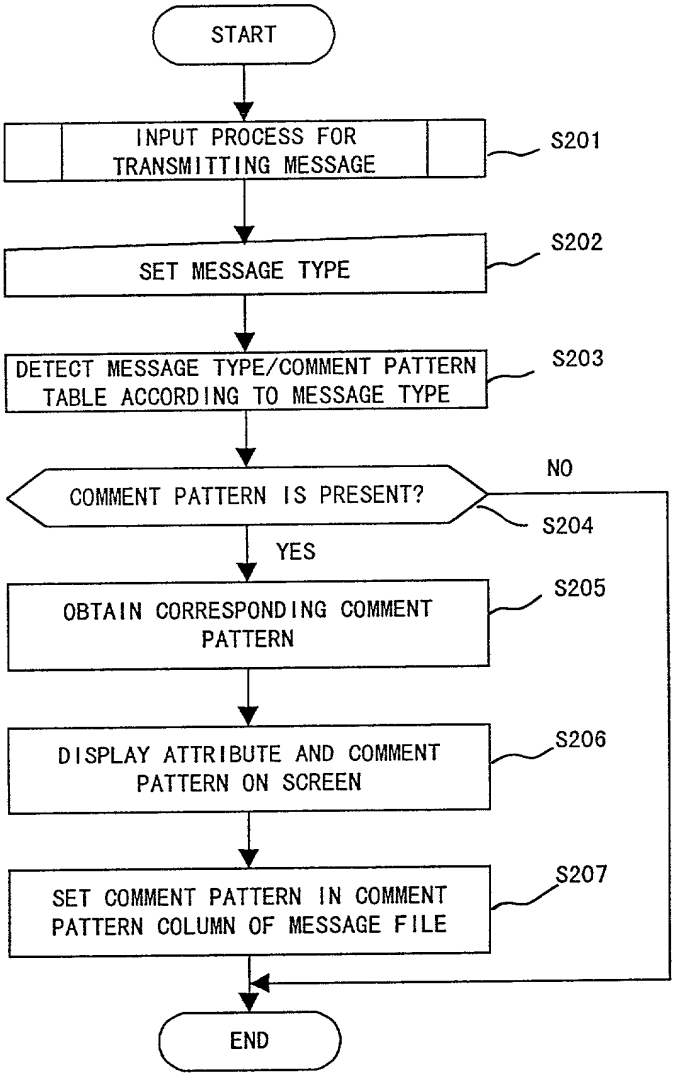

START
INPUT PROCESS FOR TRANSMITTING MESSAGE
S201
SET MESSAGE TYPE
S202
DETECT MESSAGE TYPE/COMMENT PATTERN TABLE ACCORDING TO MESSAGE TYPE
S203
COMMENT PATTERN IS PRESENT?
NO
S204
YES
OBTAIN CORRESPONDING COMMENT PATTERN
S205
DISPLAY ATTRIBUTE AND COMMENT PATTERN ON SCREEN
S206
SET COMMENT PATTERN IN COMMENT PATTERN COLUMN OF MESSAGE FILE
S207
END

FIG. 25

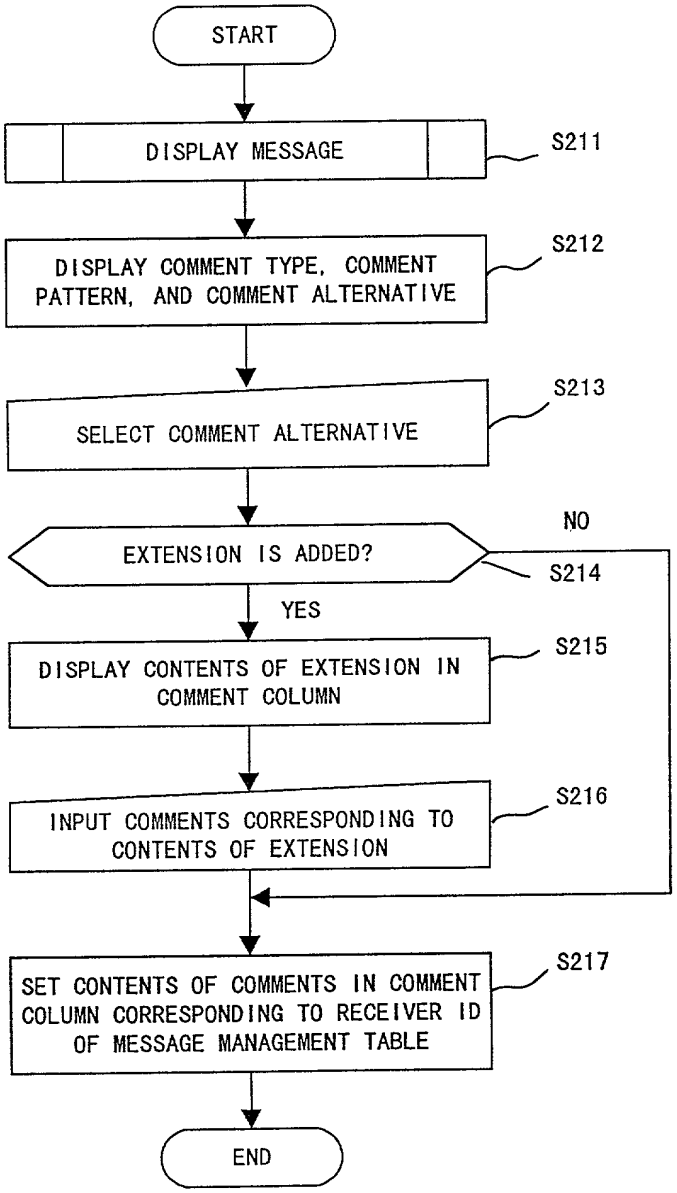
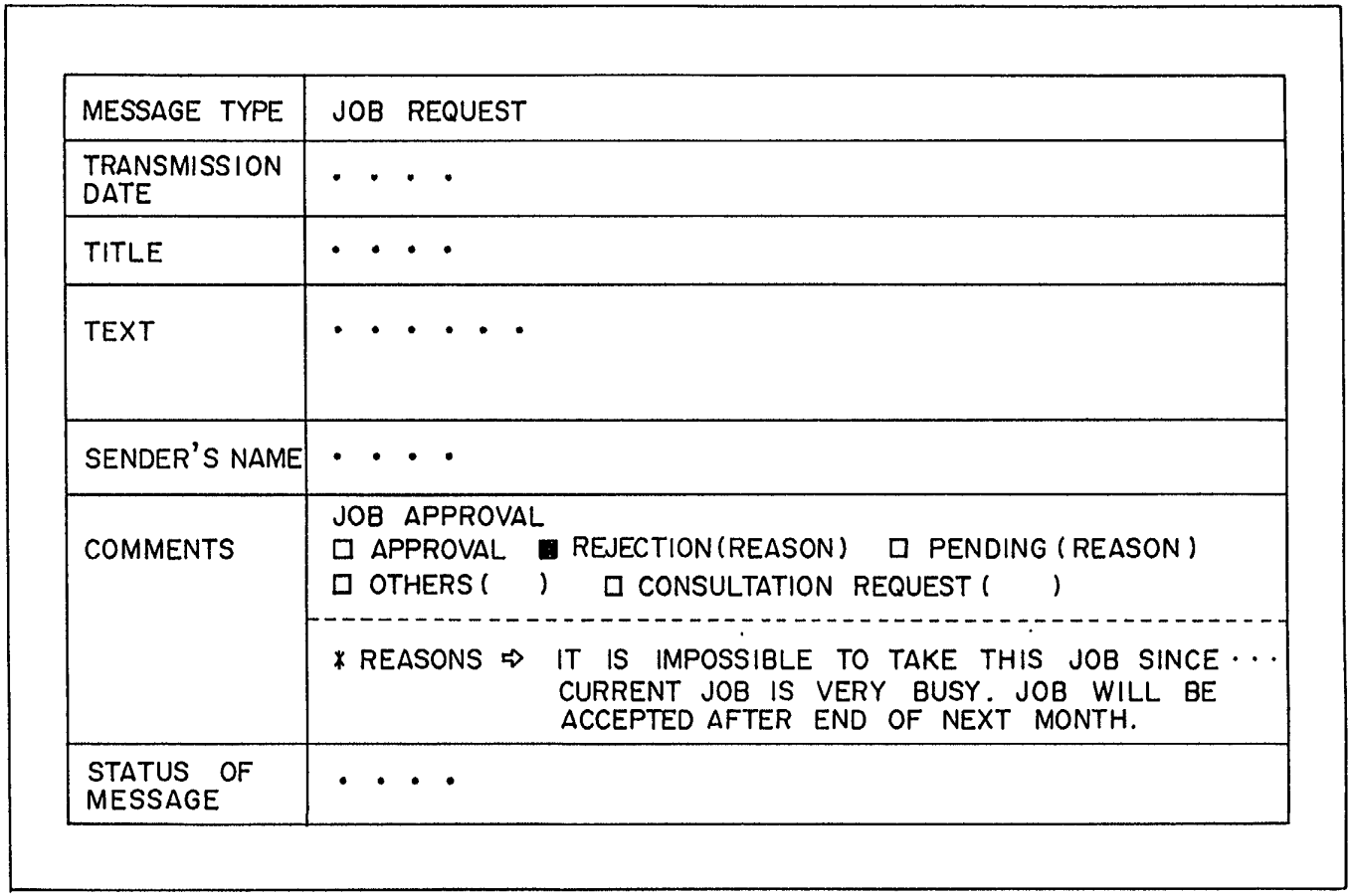

START
DISPLAY MESSAGE
S211
DISPLAY COMMENT TYPE, COMMENT PATTERN, AND COMMENT ALTERNATIVE
S212
SELECT COMMENT ALTERNATIVE
S213
EXTENSION IS ADDED?
NO
S214
YES
DISPLAY CONTENTS OF EXTENSION IN COMMENT COLUMN
S215
INPUT COMMENTS CORRESPONDING TO CONTENTS OF EXTENSION
S216
SET CONTENTS OF COMMENTS IN COMMENT COLUMN CORRESPONDING TO RECEIVER ID OF MESSAGE MANAGEMENT TABLE
S217
END

FIG. 26



MESSAGE TYPE	JOB REQUEST
TRANSMISSION DATE	• • • •
TITLE	• • • •
TEXT	• • • • • •
SENDER'S NAME	• • • •
COMMENTS	JOB APPROVAL ☐ APPROVAL ■ REJECTION(REASON) ☐ PENDING(REASON) ☐ OTHERS( ) ☐ CONSULTATION REQUEST( )
	* REASONS ⇨ IT IS IMPOSSIBLE TO TAKE THIS JOB SINCE ··· CURRENT JOB IS VERY BUSY. JOB WILL BE ACCEPTED AFTER END OF NEXT MONTH.
STATUS OF MESSAGE	• • • •

FIG. 27

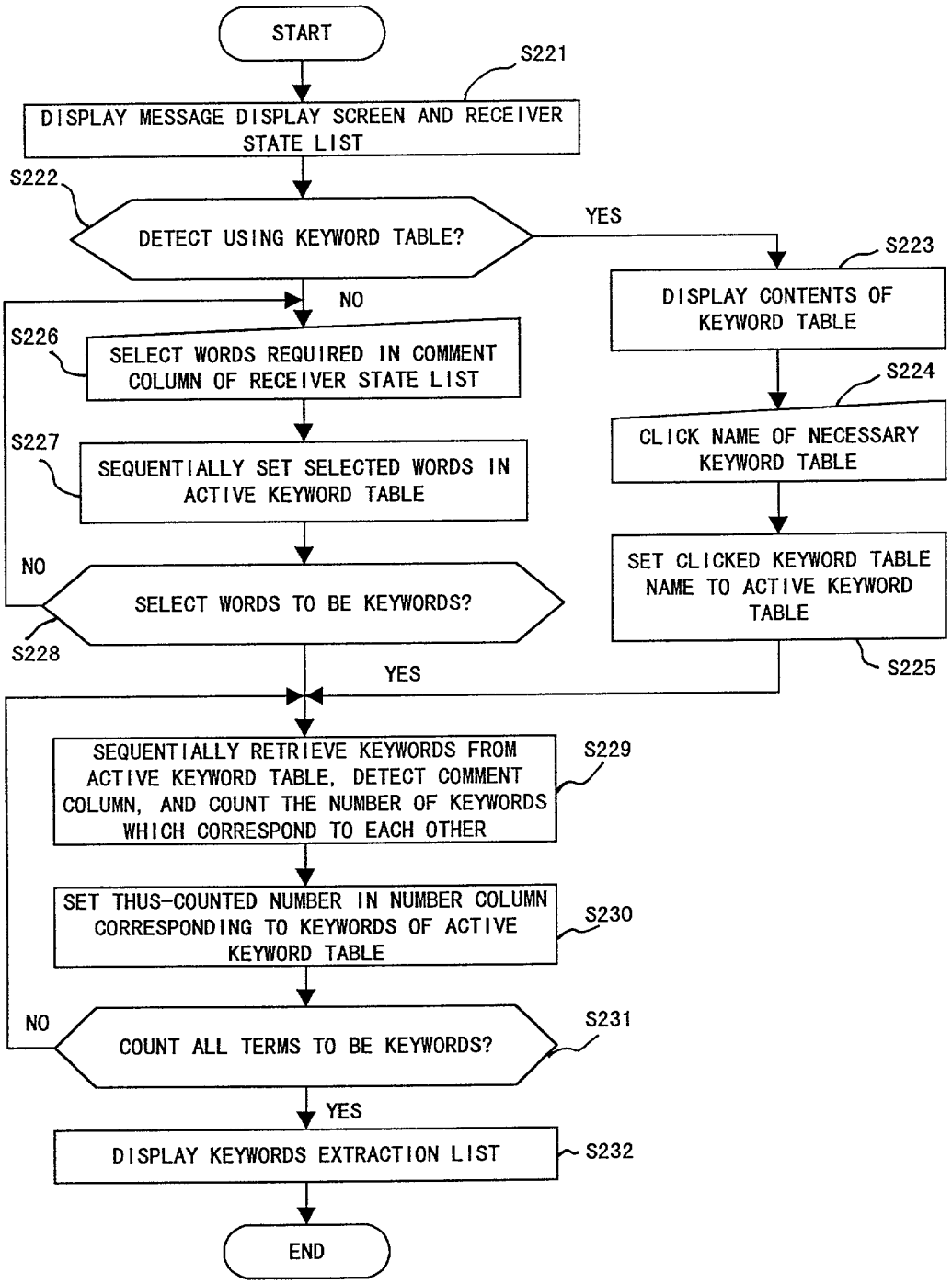

START
S221
DISPLAY MESSAGE DISPLAY SCREEN AND RECEIVER STATE LIST
S222
DETECT USING KEYWORD TABLE?
YES
S223
DISPLAY CONTENTS OF KEYWORD TABLE
S224
CLICK NAME OF NECESSARY KEYWORD TABLE
SET CLICKED KEYWORD TABLE NAME TO ACTIVE KEYWORD TABLE
S225
NO
S226
SELECT WORDS REQUIRED IN COMMENT COLUMN OF RECEIVER STATE LIST
S227
SEQUENTIALLY SET SELECTED WORDS IN ACTIVE KEYWORD TABLE
NO
SELECT WORDS TO BE KEYWORDS?
S228
YES
SEQUENTIALLY RETRIEVE KEYWORDS FROM ACTIVE KEYWORD TABLE, DETECT COMMENT COLUMN, AND COUNT THE NUMBER OF KEYWORDS WHICH CORRESPOND TO EACH OTHER
S229
SET THUS-COUNTED NUMBER IN NUMBER COLUMN CORRESPONDING TO KEYWORDS OF ACTIVE KEYWORD TABLE
S230
NO
COUNT ALL TERMS TO BE KEYWORDS?
S231
YES
DISPLAY KEYWORDS EXTRACTION LIST
S232
END

FIG. 28

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KEYWORD TABLE NAME	KEYWORD TABLE ID	KEYWORD
APPROVAL OR DISAPPROVAL PATTERN	0001	APPROVAL, DISAPPROVAL, PENDING, ・・・
ATTENDANCE OR ABSENCE PATTERN	0002	ATTENDANCE, ABSENCE, PENDING, ・・・
JOB APPROVAL PATTERN	0003	APPROVAL, DISAPPROVAL, CONSULTATION REQUEST, PENDING, ・・・
・ ・	・	

FIG. 29

34

KEYWORD	NUMBER OF CORRESPONDED KEYWORDS
APPROVAL	1 1
REJECTION	4
CONSULTATION REQUEST	2
PENDING	3
⋮	

FIG. 30

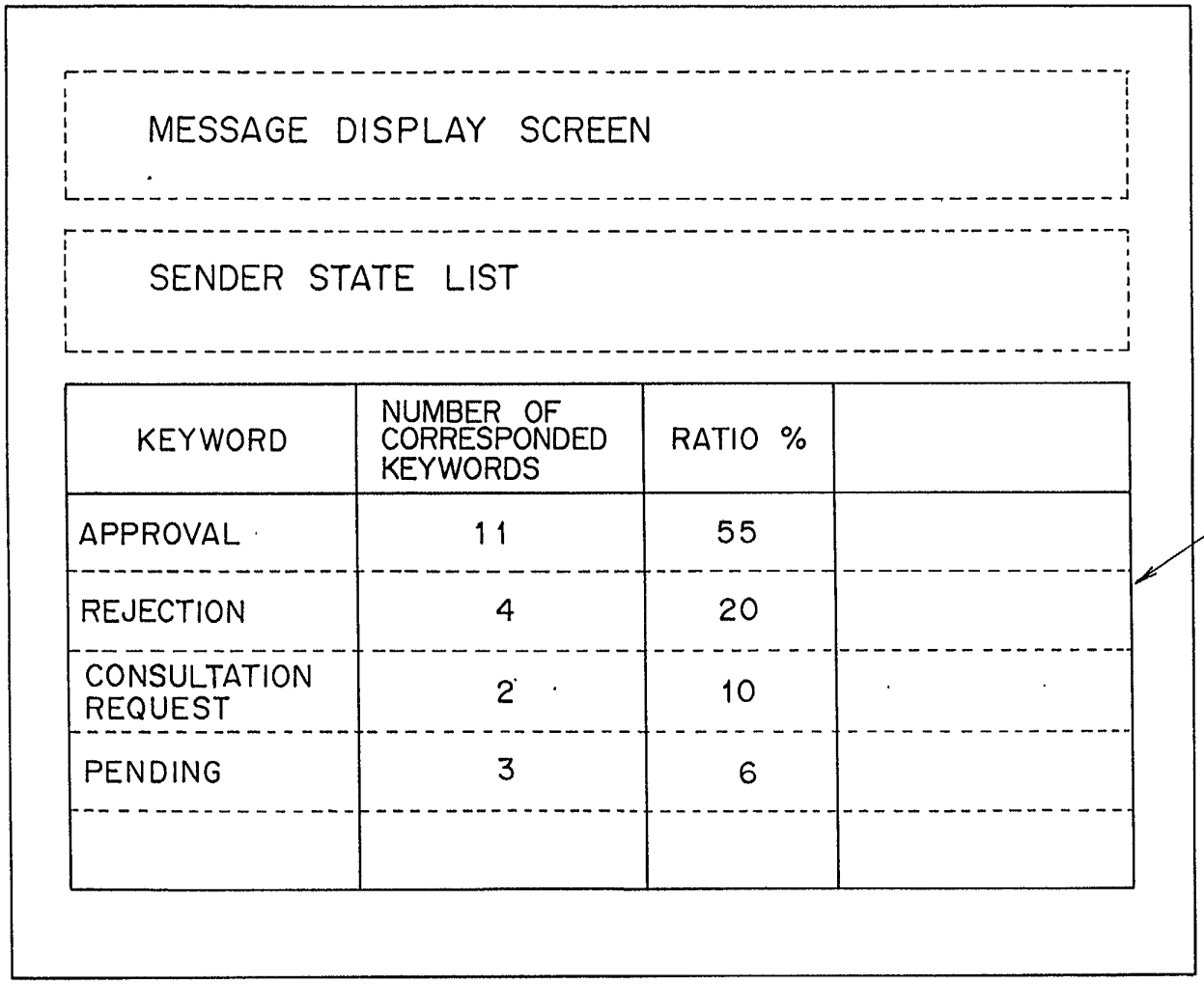
MESSAGE DISPLAY SCREEN
SENDER STATE LIST
KEYWORD
NUMBER OF CORRESPONDED KEYWORDS
RATIO %
APPROVAL
11
55
REJECTION
4
20
CONSULTATION REQUEST
2
10
PENDING
3
6
35

FIG. 31

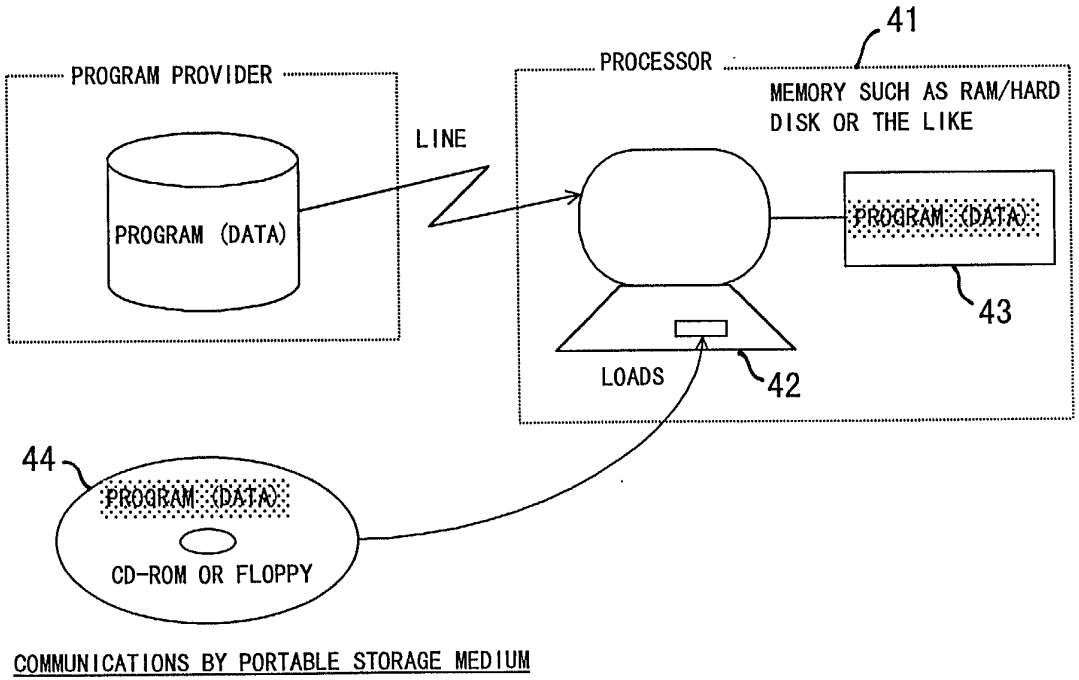
41
PROCESSOR
MEMORY SUCH AS RAM/HARD DISK OR THE LIKE
PROGRAM PROVIDER
LINE
PROGRAM (DATA)
PROGRAM (DATA)
43
LOADS
42
44
PROGRAM (DATA)
CD-ROM OR FLOPPY
COMMUNICATIONS BY PORTABLE STORAGE MEDIUM

FIG. 32

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Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Declaration and Power of Attorney For Patent Application

特許出願宣言書及び委任状

Japanese Language Declaration

日本語宣言書

下記の氏名の発明者として、私は以下の通り宣言します。

As a below named inventor, I hereby declare that:

私の住所、私書箱、国籍は下記の私の氏名の後に記載された通りです。

My residence, post office address and citizenship are as stated next to my name.

下記の名称の発明に関して請求範囲に記載され、特許出願している発明内容について、私が最初かつ唯一の発明者（下記の氏名が一つの場合）もしくは最初かつ共同発明者であると（下記の名称が複数の場合）信じています。

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

MESSAGE PROCESSING DEVICE, MESSAGE MANAGEMENT METHOD AND STORAGE MEDIUM FOR STORING MESSAGE MANAGEMENT PROGRAM

上記発明の明細書（下記の欄でx印がついていない場合は、本書に添付）は、

the specification of which is attached hereto unless the following box is checked:

☐ __月__日に提出され、米国出願番号または特許協定条約国際出願番号を_____とし、
（該当する場合）_____ に訂正されました。

☐ was filed on _____
as United States Application Number or
PCT International Application Number
_____ and was amended on
_____ (if applicable).

私は、特許請求範囲を含む上記訂正後の明細書を検討し、内容を理解していることをここに表明します。

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

私は、連邦規則法典第３７編第１条５６項に定義されるとおり、特許資格の有無について重要な情報を開示する義務があることを認めます。

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

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私は、米国法典第３５編１１９条(a)-(d)項又は３６５条(b)項に基き下記の、米国以外の国の少なくとも一ヵ国を指定している特許協力条約３６５(a)項に基ずく国際出願、又は外国での特許出願もしくは発明者証の出願についての外国優先権をここに主張するとともに、優先権を主張している、本出願の前に出願された特許または発明者証の外国出願を以下に、枠内をマークすることで、示しています。

I hereby claim foreign priority under Title 35, United States Code, Section 119 (a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)
外国での先行出願

(Number) (番号)	(Country) (国名)	(Day/Month/Year Filed) (出願年月日)	Priority Not Claimed 優先権主張なし
10-115651	Japan	24th/April/1998	☐
			☐

私は、第３５編米国法典１１９条(e)項に基いて下記の米国特許出願規定に記載された権利をここに主張いたします。

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below.

(Application No.) (出願番号)	(Filing Date) (出願日)	(Application No.) (出願番号)	(Filing Date) (出願日)

私は、下記の米国法典第３５編１２０条に基いて下記の米国特許出願に記載された権利、又は米国を指定している特許協力条約３６５条(c)に基ずく権利をここに主張します。また、本出願の各請求範囲の内容が米国法典第３５編１１２条第１項又は特許協力条約で規定された方法で先行する米国特許出願に開示されていない限り、その先行米国出願書提出日以降で本出願書の日本国内または特許協力条約国際提出日までの期間中に入手された、連邦規則法典第３７編１条５６項で定義された特許資格の有無に関する重要な情報について開示義務があることを認識しています。

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of application.

(Application No.) (出願番号)	(Filing Date) (出願日)	(Status: Patented, Pending, Abandoned) (現況：特許許可済、係属中、放棄済)

私は、私自身の知識に基づいて本宣言書中で私が行なう表明が真実であり、かつ私の入手した情報と私の信じるところに基ずく表明が全て真実であると信じていること、さらに故意になされた虚偽の表明及びそれと同等の行為は米国法典第１８編第１００１条に基ずき、罰金または拘禁、もしくはその両方により処罰されること、そしてそのような故意による虚偽の声明を行なえば、出願した、又は既に許可された特許の有効性が失われることを認識し、よってここに下記のごとく宣言を致します。

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Japanese Language Declaration
(日本語宣言書)

委任状　私は下記の発明者として、本出願に関する一切の手続き を特許商標局に対して遂行する弁理士または代理人として、下記の者を指名いたします。(弁護士、または代理人の氏名及び登録番号を明記のこと)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith *(list name and registration number)*

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